

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 18-Jul-2021

Revision date 06-Jul-2026

Revision Number 6.02

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s)	92
Safety data sheet number	92
Product Name	SODIUM CARBONATE
Index No	011-005-00-2
EC Number	207-838-8
CAS No	497-19-8
Synonyms	SODIUM CARBONATE ANHYDROUS, SODA ASH LIGHT, SODA ASH DENSE, SODIO CARBONATO DENSO FRANCESE (SODA ASH DENSE), SODIO CARBONATO DENSO RUMENO (SODA ASH DENSE), SODIO CARBONATO LEGGERO FRANCESE (SODA ASH LIGHT), SODIO CARBONATO LEGGERO TEDESCO (SODA ASH LIGHT), SODIO CARBONATO LEGGERO RUMENO (SODA ASH LIGHT), SODIO CARBONATO LEGGERO POLACCO (SODA ASH LIGHT), SODIO CARBONATO LEGGERO BOSNIACO (SODA ASH LIGHT), BRISWIM SPA ALK, BRISWIM ALKALI, pH INCREASER, SODIUM CARBONATE EP FCC, SODA XTL, SODIUM CARBONATE IPH, SODIUM CARBONATE IPH SLY, SOD CARBONATE LIGHT TTA, SOD CARBONATE LIGHT CIE, SOD CARBONATE LIGHT CIE O&G, SODIUM CARBONATE HAEMODIALYSIS, SOD CARBONATE DENSE SLY, SOD CARBONATE LIGHT SLY, SOD CARBONATE LIGHT SLYBRG, SODA CRYSTALS, SODIUM CARBONATE LIGHT FCC ED 7, SURCHLOR CORRECTEUR PH PLUS, SODIUM CARBONATE IPH FG/PH, SODA SOLVAY DENSE, SODIUM CARBONATE DENSE SLY, SOD CARBONATE LIGHT SLY TRA, SOD CARBONATE GRAN, AQUALIFE PH + G, SOD CARBONATE LIGHT QMA, SOD CARBONATE LIGHT QMA, SODA SOLVAY DENSE TRA, SODA ASH BRIQUETTES***
Pure substance/mixture	Substance
Molecular weight	106 g/mol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Glass Chemical intermediate Water treatment chemical Detergent Metallurgical Industry Industrial application Professional use Consumer use Formulation of preparations (mixtures) Intermediate Water Treatment Washing and cleaning products Pharmaceuticals Food/Feed additive
------------------------	--

Cosmetic additive
Photographic chemical
For further information, see attached Exposure Scenario

1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Serious eye damage/eye irritation	Category 2 - (H319)
-----------------------------------	---------------------

2.2. Label elements



Signal word

Warning

Hazard statements

H319 - Causes serious eye irritation

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear eye protection/ face protection

P337 + P313 - If eye irritation persists: Get medical advice/attention

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
SODIUM CARBONATE 497-19-8	90 - 100%	207-838-8 (011-005-00-2)	-	Eye Irrit. 2 (H319)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Use personal protection recommended in Section 8.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. Drink plenty of water. Get medical attention if symptoms occur.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	In high concentrations, vapours may irritate throat and respiratory system and cause coughing.
Eyes	Causes serious eye irritation.
Dermal	Prolonged contact may cause redness and irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
------------------------	------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing agent suitable for type of surrounding fire.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Hazardous combustion products	Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Cool containers with flooding quantities of water until well after fire is out.
---	---

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See section 8 for more information. Ensure adequate ventilation. Avoid breathing dust. Avoid generation of dust. Remove contaminated clothing and shoes.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	See Section 8 for information on appropriate personal protective equipment. Sweep up to prevent slipping hazard.

6.2. Environmental precautions

Environmental precautions	Avoid release to the environment. Do not allow runoff to sewer, waterway or ground. Local authorities should be advised if significant spillages cannot be contained.
----------------------------------	---

6.3. Methods and material for containment and cleaning up

Methods for containment	Vacuum or sweep up material and place in a designated, labelled waste container. Use approved industrial vacuum cleaner for removal.
Methods for cleaning up	Ventilate the area. Clean contaminated objects and areas thoroughly observing environmental regulations. Pick up and transfer to properly labelled containers. For waste disposal, see section 13.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
------------------------------------	--

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling	Avoid contact with skin, eyes or clothing. Ensure that eyewash stations and safety showers
--------------------------------	--

are close to the workstation location. Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid generation of dust. Prevention of contact with incompatible substances.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Avoid generation of dust. Suitable container/equipment material: Polyethylene (PE). Unsuitable container/equipment material: Aluminium. Keep in properly labelled containers. Store away from incompatible materials. See section 10 for more information.

7.3. Specific end use(s)**Specific use(s)**

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
SODIUM CARBONATE 497-19-8			10 mg/m ³ [5] [6]

[5]

Local health effects.

[6]

Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
SODIUM CARBONATE 497-19-8			5 mg/m ³ [5] [6]***

[5]

Local health effects.

[7]

Short term.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location. Use engineering controls to keep exposures below the OEL or DNEL.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). According to EN 16321-1.

Hand protection Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Rubber gloves	>0.11 mm	>480 minutes
Long term (repeated)	PVC	>0.11 mm	>480 minutes
Long term (repeated)	Nitrile rubber	>=0.11 mm	480 minutes
Long term (repeated)	Rubber (natural, latex)	>=0.3 mm	480 minutes
Long term (repeated)	Butyl rubber	>=0.5 mm	>480 minutes
Long term (repeated)	Neoprene gloves	>=0.5 mm	>480 minutes

Skin and body protection Wear suitable protective clothing.

Respiratory protection In case of inadequate ventilation wear respiratory protection.
Recommended filter type: Dust filter P2 (for fine dust). Type AP2.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

Environmental exposure controls Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance Powder
Colour white
Odour Odourless.
Odour threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point	851 °C	
Initial boiling point and boiling range		No information available.
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive		

limits		
Flash point		No information available.
Autoignition temperature		No information available.
Decomposition temperature	> 400 °C	
pH	> 11	
pH (as aqueous solution)		No information available.
Kinematic viscosity		No information available.
Dynamic viscosity		No information available.
Water solubility	Soluble in water	
Solubility(ies)		No information available.
Partition coefficient		No information available.
Vapour pressure		No information available.
Relative density	2.52 - 2.53	20.0 °C.
Bulk density	0.5 - 0.8 kg/dm ³	
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		No information available.
Particle Size	< 160 µm	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	Does not meet the criteria for classification as oxidising	

9.2. Other information

Molecular weight 106 g/mol

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity Stable under recommended storage conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Acids. Protect from moisture.

10.5. Incompatible materials

Incompatible materials Aluminium.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Information on likely routes of exposure**Product Information**

Inhalation	May cause irritation.
Eye contact	Causes serious eye irritation.
Skin contact	May cause slight irritation.
Ingestion	Gastrointestinal discomfort.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms May cause redness and tearing of the eyes.

Acute toxicity**Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
SODIUM CARBONATE	2800 mg/kg (Rat) ***	> 2000 mg/kg (Rabbit)***	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data the classification criteria are not met.

SODIUM CARBONATE (497-19-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal		4 hours	Not classified***

Serious eye damage/eye irritation Causes serious eye irritation.

SODIUM CARBONATE (497-19-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	eye			Causes serious eye irritation

Respiratory or skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity Based on available data the classification criteria are not met.

Component Information**SODIUM CARBONATE (497-19-8)**

Method	Species	Results
Ames Test		Negative

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity Based on available data the classification criteria are not met.

STOT - single exposure Based on available data the classification criteria are not met.

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

SODIUM CARBONATE (497-19-8)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Fish	LC50	> 100 mg/L	96 hours	Not classified***
	Crustacea***	EC50	> 100 mg/L	48 hours	Not classified***
EPA***	Algae	ErC50***	> 100 mg/L	72 hours***	Not classified***

12.2. Persistence and degradability

Persistence and degradability The product contains inorganic substances which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation Not applicable to inorganic substances.

12.4. Mobility in soil

Mobility in soil Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
SODIUM CARBONATE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused Waste is classified as hazardous waste. Disposal to licensed waste disposal site in

products accordance with the local Waste Disposal Authority.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user
 Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user
 Special Provisions None
 14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user
 Special Provisions None

ADR

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user
 Special Provisions None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Product restricted per REACH Annex XVII: 3

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
SODIUM CARBONATE - 497-19-8	75.***	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories**TSCA**

Contact supplier for inventory compliance status

DSL/NDSL

Contact supplier for inventory compliance status

EINECS/ELINCS

Contact supplier for inventory compliance status

ENCS

Contact supplier for inventory compliance status

IECSC

Contact supplier for inventory compliance status

KECI

Contact supplier for inventory compliance status

PICCS

Contact supplier for inventory compliance status

AIIC

Contact supplier for inventory compliance status

NZIoC

Contact supplier for inventory compliance status

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC** - Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**15.2. Chemical safety assessment****Chemical Safety Report**

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H319 - Causes serious eye irritation

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note ***Indicates updated data since last publication

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Prepared By Jitendra Panchal

Supersedes date 18-Jul-2021

Revision date 06-Jul-2026

This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
 Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent

Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Daily amount per site
Value	<= 783300
Units	kg/d

Type	Annual amount per site
Value	<= 235000
Units	t(ons)/year

Operational conditions

Remarks	Receiving surface water flow 180000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
-----------------------------------	------

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a basic standard of general ventilation (1 to 3 air changes per hour)

control dispersion from source towards the worker	without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration
(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local 10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use as an intermediate
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature
Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Amounts used

Type	Daily amount per site
Value	<= 833300
Units	kg/d

Type	Annual amount per site
Value	<= 250000
Units	t(ons)/year

Operational conditions

Remarks	Receiving surface water flow 180000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Predicted No Effect Concentration (PNEC)

Remarks

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method		Risk management measures are based on qualitative risk characterization	
Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61
PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6.1 mg/m ³	0.61

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC15 - Use as laboratory reagent
 PROC17 - Lubrication at high energy conditions and in partly open process
 PROC18 - Greasing at high energy conditions
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature
Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Daily amount per site
Value	<= 19660
Units	kg/d

Type	Annual amount per site
Value	<= 5900
Units	t(ons)/year

Operational conditions

Remarks	Receiving surface water flow is 18000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to	Wear suitable gloves tested to EN 374 Efficiency of at least 80%

personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	50%
Physical form of product	Liquid
Amounts used	High application rate (> 3 l/minute)
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC17 - Lubrication at high energy conditions and in partly open process
Title	(open systems)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC18 - Greasing at high energy conditions
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated
-----------------------	---

	temperature
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local 10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling	Worker - inhalative, long-term - local	5 mg/m ³	0.5

of solid inorganic substances at ambient temperature			
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	9 mg/m ³	0.9
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	7.2 mg/m ³	0.72
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC17 - Lubrication at high energy conditions and in partly open process	Worker - inhalative, long-term - local	9.1 mg/m ³	0.91
PROC18 - Greasing at high energy conditions	Worker - inhalative, long-term - local	8.3 mg/m ³	0.83
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC15 - Use as laboratory reagent
 PROC17 - Lubrication at high energy conditions and in partly open process
 PROC18 - Greasing at high energy conditions
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Amounts used

Type	Daily amount per site
Value	<= 396600
Units	kg/d

Type	Annual amount per site
------	------------------------

Value	<= 119000
Units	t(ons)/year

Operational conditions

Remarks	Receiving surface water flow is 18000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	50%
Physical form of product	Liquid
Amounts used	High application rate (> 3 l/minute)
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to
-----------------------	--

	vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC17 - Lubrication at high energy conditions and in partly open process
Title	(open systems)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment

Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC18 - Greasing at high energy conditions
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
-----------------------	---

Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at	Worker - inhalative, long-term - local	5 mg/m ³	0.5

ambient temperature			
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	9 mg/m ³	0.9
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	7.2 mg/m ³	0.72
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC17 - Lubrication at high energy conditions and in partly open process	Worker - inhalative, long-term - local	9.1 mg/m ³	0.91
PROC18 - Greasing at high energy conditions	Worker - inhalative, long-term - local	8.3 mg/m ³	0.83
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6b - Industrial use of reactive processing aids
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC15 - Use as laboratory reagent
 PROC17 - Lubrication at high energy conditions and in partly open process
 PROC18 - Greasing at high energy conditions
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids

Amounts used

Type	Daily amount per site
Value	<= 1670000
Units	kg/d

Type	Annual amount per site
Value	<= 500000

Units	t(ons)/year
-------	-------------

Operational conditions

Remarks	Receiving surface water flow is 18000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment

Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	50%
Physical form of product	Liquid
Amounts used	High application rate (> 3 l/minute)
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic
-----------------------	--

	substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a basic standard of general ventilation (1 to 3 air changes per hour)

control dispersion from source towards the worker	without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC17 - Lubrication at high energy conditions and in partly open process
Title	(open systems)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC18 - Greasing at high energy conditions
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
Covers concentrations up to	25%

Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC8b - Transfer of substance or	Worker - inhalative, long-term	1 mg/m ³	0.1

preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	- local		
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	9 mg/m ³	0.9
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	7.2 mg/m ³	0.72
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC17 - Lubrication at high energy conditions and in partly open process	Worker - inhalative, long-term - local	9.1 mg/m ³	0.91
PROC18 - Greasing at high energy conditions	Worker - inhalative, long-term - local	8.3 mg/m ³	0.83
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC15 - Use as laboratory reagent
 PROC17 - Lubrication at high energy conditions and in partly open process
 PROC18 - Greasing at high energy conditions
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature
Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Amounts used

Type	Daily amount per site
Value	<= 56000
Units	kg/d

Type	Annual amount per site
Value	<= 16800
Units	t(ons)/year

Operational conditions

Remarks	Receiving surface water flow is 18000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to	Wear suitable gloves tested to EN 374 Efficiency of at least 80%

personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	50%
Physical form of product	Liquid
Amounts used	High application rate (> 3 l/minute)
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC17 - Lubrication at high energy conditions and in partly open process
Title	(open systems)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC18 - Greasing at high energy conditions
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated
-----------------------	---

	temperature
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local 10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling	Worker - inhalative, long-term - local	5 mg/m ³	0.5

of solid inorganic substances at ambient temperature			
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	9 mg/m ³	0.9
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	7.2 mg/m ³	0.72
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC17 - Lubrication at high energy conditions and in partly open process	Worker - inhalative, long-term - local	9.1 mg/m ³	0.91
PROC18 - Greasing at high energy conditions	Worker - inhalative, long-term - local	8.3 mg/m ³	0.83
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC7 - Industrial use of substances in closed systems
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC15 - Use as laboratory reagent
 PROC17 - Lubrication at high energy conditions and in partly open process
 PROC18 - Greasing at high energy conditions
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
 PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC7 - Industrial use of substances in closed systems

Amounts used

Type	Daily amount per site
Value	<= 396600
Units	kg/d

Type	Annual amount per site
Value	<= 119000

Units	t(ons)/year
-------	-------------

Operational conditions

Remarks	Receiving surface water flow is 18000 m3/d
---------	--

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Sludge treatment	Controlled application to agricultural soil

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment

Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	50%
Physical form of product	Liquid
Amounts used	High application rate (> 3 l/minute)
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic
-----------------------	--

	substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a basic standard of general ventilation (1 to 3 air changes per hour)

control dispersion from source towards the worker	without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC17 - Lubrication at high energy conditions and in partly open process
Title	(open systems)
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC18 - Greasing at high energy conditions
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 1.33 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Process category(ies)	PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature
Covers concentrations up to	25%

Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	200 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC7 - Industrial use of substances in closed systems

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC8b - Transfer of substance or	Worker - inhalative, long-term	1 mg/m ³	0.1

preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	- local		
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	9 mg/m ³	0.9
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	7.2 mg/m ³	0.72
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.5 mg/m ³	0.05
PROC17 - Lubrication at high energy conditions and in partly open process	Worker - inhalative, long-term - local	9.1 mg/m ³	0.91
PROC18 - Greasing at high energy conditions	Worker - inhalative, long-term - local	8.3 mg/m ³	0.83
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC22 - Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC23 - Open processing and transfer operations with minerals/metals at elevated temperature	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Professional use
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	5%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Amounts used	0.013 kg/ha
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a basic standard of general ventilation (1 to 3 air changes per hour)

control dispersion from source towards the worker	without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.06 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6 mg/m ³	0.6

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	2 mg/m ³	0.2
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.4 mg/m ³	0.84
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.1 mg/m ³	0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1.8 mg/m ³	0.18

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Professional use
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%

Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	5%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
-----------------------------------	------

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Amounts used	0.013 kg/ha
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.06 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	2 mg/m ³	0.2
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.4 mg/m ³	0.84
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.1 mg/m ³	0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1.8 mg/m ³	0.18

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Professional use
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8b - Wide dispersive indoor use of reactive substances in open systems ERC8e - Wide dispersive outdoor use of reactive substances in open systems
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems
 - ERC8e - Wide dispersive outdoor use of reactive substances in open systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%

Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	5%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
-----------------------------------	------

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Amounts used	0.013 kg/ha
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems
- ERC8e - Wide dispersive outdoor use of reactive substances in open systems

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.06 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	2 mg/m ³	0.2
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.4 mg/m ³	0.84
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.1 mg/m ³	0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1.8 mg/m ³	0.18

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Professional use
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	5%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Amounts used	0.013 kg/ha
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a basic standard of general ventilation (1 to 3 air changes per hour)

control dispersion from source towards the worker	without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.06 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6 mg/m ³	0.6

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	2 mg/m ³	0.2
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.4 mg/m ³	0.84
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.1 mg/m ³	0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1.8 mg/m ³	0.18

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Professional use
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC9a - Wide dispersive indoor use of substances in closed systems ERC9b - Wide dispersive outdoor use of substances in closed systems
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC26 - Handling of solid inorganic substances at ambient temperature

Product Name SODIUM CARBONATE
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC9a - Wide dispersive indoor use of substances in closed systems
 - ERC9b - Wide dispersive outdoor use of substances in closed systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%

Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	5%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
-----------------------------------	------

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Covers use up to 0.42 h/d
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Solid, medium dustiness
Amounts used	0.013 kg/ha
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	25%
Physical form of product	Liquid
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	100%
Physical form of product	Solid, medium dustiness
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection

health evaluation	See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) without local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC9a - Wide dispersive indoor use of substances in closed systems
- ERC9b - Wide dispersive outdoor use of substances in closed systems

Predicted No Effect Concentration (PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Used ART model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	< 0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.06 mg/m ³	< 0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	5 mg/m ³	0.5

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	2 mg/m ³	0.2
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC26 - Handling of solid inorganic substances at ambient temperature	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	6 mg/m ³	0.6
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.6 mg/m ³	0.86
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local	8.4 mg/m ³	0.84
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.6 mg/m ³	0.06
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.1 mg/m ³	0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1 mg/m ³	0.1
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	1.8 mg/m ³	0.18

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
Product category(ies) PC0 - Other Products PC3 - Air care products PC31 - Polishes and wax blends PC35 - Washing and cleaning products (including solvent based products)

Product Name SODIUM CARBONATE
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	10%
Physical form of product	Solid Gel
Amounts used	<= 2.5 g/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	50%

Physical form of product	Aerosol Sprays
Amounts used	<= 10 g/event
Exposure duration	Avoid carrying out operation for more than 0.25 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant
Amounts used	<= 550 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 24 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Sprays
Amounts used	<= 135 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 8 times per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 235 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	15%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 210 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Liquid
Amounts used	<= 110 g/event
Exposure duration	Avoid carrying out operation for more than 0.3 hr/event

Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Sprays
Amounts used	<= 30 g/event
Exposure duration	Avoid carrying out operation for more than 0.2 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	60%
Physical form of product	Solid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 261 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products) PC0 - Other Products
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Amounts used	<= 100 g/event
Exposure duration	Avoid carrying out operation for more than 0.08 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 261 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration
(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment

and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.00216 mg/m ³	< 0.01
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.894 mg/m ³	0.179
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	0.48 mg/m ³	0.096
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.466 mg/m ³	0.093
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.36 mg/m ³	0.072
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC0 - Other Products PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Product category(ies) PC0 - Other Products PC3 - Air care products PC31 - Polishes and wax blends PC35 - Washing and cleaning products (including solvent based products)
Product Name SODIUM CARBONATE
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	10%
Physical form of product	Solid Gel
Amounts used	<= 2.5 g/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	50%
Physical form of product	Aerosol Sprays
Amounts used	<= 10 g/event
Exposure duration	Avoid carrying out operation for more than 0.25 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant
Amounts used	<= 550 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 24 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Sprays
Amounts used	<= 135 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 8 times per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 235 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	15%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 210 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Liquid

Amounts used	<= 110 g/event
Exposure duration	Avoid carrying out operation for more than 0.3 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Sprays
Amounts used	<= 30 g/event
Exposure duration	Avoid carrying out operation for more than 0.2 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	60%
Physical form of product	Solid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 261 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products) PC0 - Other Products
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Amounts used	<= 100 g/event
Exposure duration	Avoid carrying out operation for more than 0.08 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 261 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems**

Predicted No Effect Concentration

(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.00216 mg/m ³	< 0.01
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.894 mg/m ³	0.179
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	0.48 mg/m ³	0.096
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.466 mg/m ³	0.093
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.36 mg/m ³	0.072
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC0 - Other Products PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8b - Wide dispersive indoor use of reactive substances in open systems ERC8e - Wide dispersive outdoor use of reactive substances in open systems
Product category(ies) PC0 - Other Products PC3 - Air care products PC31 - Polishes and wax blends PC35 - Washing and cleaning products (including solvent based products)
Product Name SODIUM CARBONATE
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems
 - ERC8e - Wide dispersive outdoor use of reactive substances in open systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	10%
Physical form of product	Solid Gel
Amounts used	<= 2.5 g/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	50%
Physical form of product	Aerosol Sprays
Amounts used	<= 10 g/event
Exposure duration	Avoid carrying out operation for more than 0.25 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant
Amounts used	<= 550 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 24 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Sprays
Amounts used	<= 135 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 8 times per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 235 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	15%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 210 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Liquid

Amounts used	<= 110 g/event
Exposure duration	Avoid carrying out operation for more than 0.3 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Sprays
Amounts used	<= 30 g/event
Exposure duration	Avoid carrying out operation for more than 0.2 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	60%
Physical form of product	Solid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 261 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products) PC0 - Other Products
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Amounts used	<= 100 g/event
Exposure duration	Avoid carrying out operation for more than 0.08 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 261 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems
- ERC8e - Wide dispersive outdoor use of reactive substances in open systems**

Predicted No Effect Concentration

(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.00216 mg/m ³	< 0.01
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.894 mg/m ³	0.179
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	0.48 mg/m ³	0.096
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.466 mg/m ³	0.093
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.36 mg/m ³	0.072
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC0 - Other Products PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
Product category(ies) PC0 - Other Products PC3 - Air care products PC31 - Polishes and wax blends PC35 - Washing and cleaning products (including solvent based products)

Product Name SODIUM CARBONATE
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	10%
Physical form of product	Solid Gel
Amounts used	<= 2.5 g/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	50%

Physical form of product	Aerosol Sprays
Amounts used	<= 10 g/event
Exposure duration	Avoid carrying out operation for more than 0.25 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant
Amounts used	<= 550 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 24 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Sprays
Amounts used	<= 135 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 8 times per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 235 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	15%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 210 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Liquid
Amounts used	<= 110 g/event
Exposure duration	Avoid carrying out operation for more than 0.3 hr/event

Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Sprays
Amounts used	<= 30 g/event
Exposure duration	Avoid carrying out operation for more than 0.2 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	60%
Physical form of product	Solid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 261 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products) PC0 - Other Products
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Amounts used	<= 100 g/event
Exposure duration	Avoid carrying out operation for more than 0.08 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 261 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration
(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment

and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

10 mg/m³

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.00216 mg/m ³	< 0.01
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.894 mg/m ³	0.179
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	0.48 mg/m ³	0.096
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.466 mg/m ³	0.093
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.36 mg/m ³	0.072
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC0 - Other Products PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name SODIUM CARBONATE
Chemical name Sodium carbonate
Pure substance/mixture Substance
REACH registration number 01-2119485498-19-XXXX
CAS No 497-19-8
EC No (EU Index No) 207-838-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC9a - Wide dispersive indoor use of substances in closed systems ERC9b - Wide dispersive outdoor use of substances in closed systems
Product category(ies) PC0 - Other Products PC3 - Air care products PC31 - Polishes and wax blends PC35 - Washing and cleaning products (including solvent based products)
Product Name SODIUM CARBONATE
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC9a - Wide dispersive indoor use of substances in closed systems
 - ERC9b - Wide dispersive outdoor use of substances in closed systems

Amounts used

Type	Daily amount per site
Value	<= 275
Units	kg/d

Conditions and measures related to external treatment of waste for disposal

Disposal	Dispose of waste product or used containers according to local regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	10%
Physical form of product	Solid Gel
Amounts used	<= 2.5 g/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC3 - Air care products
Covers concentrations up to	50%
Physical form of product	Aerosol Sprays
Amounts used	<= 10 g/event
Exposure duration	Avoid carrying out operation for more than 0.25 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant
Amounts used	<= 550 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 24 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC31 - Polishes and wax blends
Covers concentrations up to	50%
Physical form of product	Sprays
Amounts used	<= 135 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 8 times per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 235 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	15%
Physical form of product	Solid Powder
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 210 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Liquid

Amounts used	<= 110 g/event
Exposure duration	Avoid carrying out operation for more than 0.3 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	10%
Physical form of product	Sprays
Amounts used	<= 30 g/event
Exposure duration	Avoid carrying out operation for more than 0.2 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 105 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	60%
Physical form of product	Solid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 events per day 261 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Covers concentrations up to	30%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 events per day 365 days per year
Risk management measures	Use suitable eye protection Keep away from children

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products) PC0 - Other Products
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Amounts used	<= 100 g/event
Exposure duration	Avoid carrying out operation for more than 0.08 hr/event
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 261 days per year
Risk management measures	Use suitable eye protection Keep away from children
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental release category(ies) - ERC9a - Wide dispersive indoor use of substances in closed systems
- ERC9b - Wide dispersive outdoor use of substances in closed systems

Predicted No Effect Concentration

(PNEC)

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):
Worker - inhalative, long-term - local

10 mg/m³

Calculation method The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.00216 mg/m ³	< 0.01
PC3 - Air care products	Consumer - inhalative, long-term - local and systemic	0.894 mg/m ³	0.179
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77
PC31 - Polishes and wax blends	Consumer - inhalative, long-term - local and systemic	0.48 mg/m ³	0.096
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.466 mg/m ³	0.093
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0.36 mg/m ³	0.072
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	0 mg/m ³	< 0.01
PC0 - Other Products PC35 - Washing and cleaning products (including solvent based products)	Consumer - inhalative, long-term - local and systemic	3.85 mg/m ³	0.77

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.