

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 30.06.2014

Version 12.13

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

1.1 Product identifier

Catalogue No.	106392
Product name	Sodium carbonate anhydrous for analysis EMSURE® ISO
REACH Registration Number	01-2119485498-19-XXXX
CAS-No.	497-19-8

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

Identified uses	Reagent for analysis In compliance with the conditions described in the annex to this safety data sheet.
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	EQ-RS * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Xi	Irritant	R36
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For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word
Warning

Hazard statements
H319 Causes serious eye irritation.

Precautionary statements

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Prevention

P260 Do not breathe dust.

Response

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

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word
Warning

Index-No. 011-005-00-2

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	Na ₂ CO ₃	CNa ₂ O ₃ (Hill)
Index-No.	011-005-00-2	
EC-No.	207-838-8	
Molar mass	105,99 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
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sodium carbonate (≤ 100 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

497-19-8	01-2119485498-19-XXXX	Eye irritation, Category 2, H319
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For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	Classification
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sodium carbonate (≤ 100 %)

497-19-8	Xi, Irritant; R36
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For the full text of the R-phrases mentioned in this Section, see Section 16.

3.2 Mixture

not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

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In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

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Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Recommended storage temperature see product label.

7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

Worker DNEL, longterm Local effects inhalation 10 mg/m³

Predicted No Effect Concentration (PNEC)

PNEC no data available

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
protective clothing

Respiratory protection
required when dusts are generated.
Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls
Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	odourless
Odour Threshold	not applicable
pH	11,5 at 50 g/l 25 °C
Melting point	854 °C
Boiling point/boiling range	1.600 °C (decomposition)
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	not applicable
Relative vapour density	No information available.

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Density	2,53 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	220 g/l at 20 °C
Partition coefficient: n-octanol/water	not applicable
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	not applicable
Bulk density	ca. 1.100 kg/m ³

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Aluminium, Alkaline earth metals, organic nitro compounds, Fluorine, Alkali metals, nonmetallic oxides, conc. sulfuric acid

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

no information available

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SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: 4.090 mg/kg (IUCLID)

LDLO human: 714 mg/kg (RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

LC50 rat: 5.750 mg/l; 2 h

OECD Test Guideline 403

Symptoms: Possible damages: mucosal irritations

Acute dermal toxicity

This information is not available.

Skin irritation

rabbit

Result: slight irritation

OECD Test Guideline 404

Possible damages: slight irritation

Eye irritation

rabbit

Result: Eye irritation

(IUCLID)

Causes serious eye irritation.

Sensitisation

This information is not available.

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Escherichia coli

Result: negative

(Lit.)

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

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SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 300 mg/l; 96 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 265 mg/l; 48 h (IUCLID)

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

not applicable

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Directive 96/82/EC does not apply
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals not regulated

Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).
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National legislation

Storage class	10 - 13
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15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out according to regulation (EC) No. 1907/2006 (REACH) for this substance.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H319	Causes serious eye irritation.
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Full text of R-phrases referred to under sections 2 and 3

R36	Irritating to eyes.
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Training advice

Provide adequate information, instruction and training for operators.

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	 Xi	Irritant
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R-phrases(s)	36	Irritating to eyes.
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S-phrases(s)	22-26	Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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EC-No.	207-838-8	EC Label
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Reduced labelling (≤125 ml)

Symbol(s)  Xi

Irritant

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

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EXPOSURE SCENARIO 1 (Industrial use)

1. Industrial use (Reagent for analysis)

Sectors of end-use

<i>SU 3</i>	Industrial uses: Uses of substances as such or in preparations at industrial sites
<i>SU 9</i>	Manufacture of fine chemicals
<i>SU 10</i>	Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

Chemical product category

<i>PC21</i>	Laboratory chemicals
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Process categories

<i>PROC1</i>	Use in closed process, no likelihood of exposure
<i>PROC2</i>	Use in closed, continuous process with occasional controlled exposure
<i>PROC3</i>	Use in closed batch process (synthesis or formulation)
<i>PROC4</i>	Use in batch and other process (synthesis) where opportunity for exposure arises
<i>PROC5</i>	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
<i>PROC8a</i>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
<i>PROC8b</i>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
<i>PROC9</i>	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
<i>PROC10</i>	Roller application or brushing
<i>PROC14</i>	Production of preparations or articles by tableting, compression, extrusion, pelletisation
<i>PROC15</i>	Use as laboratory reagent

Environmental Release Categories

<i>ERC1</i>	Manufacture of substances
<i>ERC2</i>	Formulation of preparations
<i>ERC4</i>	Industrial use of processing aids in processes and products, not becoming part of articles
<i>ERC6a</i>	Industrial use resulting in manufacture of another substance (use of intermediates)
<i>ERC6b</i>	Industrial use of reactive processing aids
<i>ERC7</i>	Industrial use of substances in closed systems

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a, ERC6b, ERC7

Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with high pH-value must be neutralized before discharge.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Solid, medium dustiness

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Product name Sodium carbonate anhydrous for analysis EMSURE® ISO

Frequency and duration of use

Frequency of use 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374), coverall and eye protection.

3. Exposure estimation and reference to its source

Environment

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC1		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC2		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC4		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC6a		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC6b		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC7		All compartments	< 1	Qualitative assessment used to conclude safe use.

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.2	PROC1	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC2	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC3	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC4	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC5	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC8a	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC8b	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC9	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC10	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC14	longterm, inhalative, local	< 1	ECETOC TRA 2
2.2	PROC15	longterm, inhalative, local	< 1	ECETOC TRA 2

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure

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Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH
Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC
Guidance Specific Environmental Release Categories (SPERCs).

For scaling of worker exposure assessments performed with ECETOC TRA, please consult the Merck
tool SciDeEx® at www.merck-chemicals.com.

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EXPOSURE SCENARIO 2 (Professional use)

1. Professional use (Reagent for analysis)

Sectors of end-use

SU 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category

PC21 Laboratory chemicals

Process categories

PROC15 Use as laboratory reagent

Environmental Release Categories

ERC2 Formulation of preparations

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC6a, ERC6b

Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with high pH-value must be neutralized before discharge.

2.2 Contributing scenario controlling worker exposure for: PROC15

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Solid, high dustiness

Frequency and duration of use

Frequency of use	60 minutes/day
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Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor without local exhaust ventilation (LEV)
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Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 1 hour.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374), coverall and eye protection.

3. Exposure estimation and reference to its source

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Environment

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC2		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC6a		All compartments	< 1	Qualitative assessment used to conclude safe use.
2.1	ERC6b		All compartments	< 1	Qualitative assessment used to conclude safe use.

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.2	PROC15	longterm, inhalative, local	< 1	ECETOC TRA 2

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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