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

Product identifier

Product name: Sodium carbonate, anhydrous

Stock number: 11552
CAS Number: 497-19-8
EC number: 207-838-8
Index number: 011-005-00-2

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

Sector of Use SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department
Emergency telephone number:
During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

Information concerning particular hazards for human and environment: Not applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07

Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash thoroughly after handling.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

Hazard description:

WHMIS classification
D2B - Toxic material causing other toxic effects

(Contd. on page 2)
Product name: Sodium carbonate, anhydrous

3 Classification system
HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

| HEALTH | 1 | Health (acute effects) = 1 |
| FIRE   | 1 | Flammability = 1 |
| REACTIVITY | 1 | Reactivity = 1 |

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:
497-19-8 Sodium carbonate

Identification number(s):
EC number: 207-838-8
Index number: 011-005-00-2

4 First aid measures

Description of first aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing
Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed
No further relevant information available.

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

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Sodium oxide

Advice for firefighters

Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:
Pick up mechanically.

Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

(Contd. of page 1)
7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Prevent formation of dust.

Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:
Do not store together with oxidizing and acidic materials.
Store away from water/moisture.

Further information about storage conditions:
This product is hygroscopic.
Store under dry inert gas.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality.
Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:
Form: Powder
Color: White
Odor: Odorless
Odor threshold: Not determined.

pH-value (100 g/l) at 20°C (68 °F): 11.5

Change in condition

Melting point/Melting range: 851°C (1564 °F)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flammability (solid, gaseous) Not determined.
Material Safety Data Sheet
According to OSHA and ANSI
Printing date 07/17/2012 Reviewed on 07/16/2012

Product name: Sodium carbonate, anhydrous

<table>
<thead>
<tr>
<th>Ignition temperature:</th>
<th>Not determined</th>
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<tr>
<td>Decomposition temperature:</td>
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<tr>
<td>Auto igniting:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
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<tr>
<td>Lower:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined</td>
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<tr>
<td>Vapor pressure:</td>
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<tr>
<td>Density at 20°C (68 °F):</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Vapor density</td>
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<tr>
<td>Evaporation rate</td>
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<td>Solubility in / Miscibility with</td>
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<td>Water at 20°C (68 °F):</td>
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<td>Segregation coefficient (n-octonol/water):</td>
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<tr>
<td>kinematic:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available</td>
</tr>
</tbody>
</table>

10 Stability and reactivity
Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions: No dangerous reactions known
Incompatible materials:
Water/moisture
Oxidizing agents
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Sodium oxide

11 Toxicological information
Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification:
Oral LD50: 4090 mg/kg (rat)
Primary irritant effect:
on the skin: May cause irritation
on the eye: Irritating effect.
Sensitisation: No sensitizing effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, NTP, OSHA or ACGIH.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.

12 Ecological information
Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.
Behavior in environmental systems: Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Additional ecological information:
General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Material Safety Data Sheet
According to OSHA and ANSI

Product name: Sodium carbonate, anhydrous

Do not allow material to be released to the environment without proper governmental permits. Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number
DOT, ADR, ADN, IMDG, IATA Not applicable

UN proper shipping name
DOT, ADR, ADN, IMDG, IATA Not applicable

Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA Class Not applicable

Packing group
DOT, ADR, IMDG, IATA Not applicable

Environmental hazards:
Marine pollutant: No

Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

UN "Model Regulation": -

15 Regulatory information

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

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations
Substances of very high concern (SVHC) according to REACH, Article 57
Substance is not listed.
REACH - Pre-registered substances Substance is listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.
Contact:
Zachariah C. Holt
Global EHS Manager
**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent