Section 1 - Identification

Product Name: Sodium bisulphate monohydrate

Product Code: ACR12500, ACR41943, FSBS/4690

Address: ThermoFisher Scientific Australia Pty Ltd
5 Caribbean Drive, Scoresby
VICTORIA 3179, Australia

Emergency Tel.: CHEMTREC®
03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers:
Tel: 1300 735 292
Fax: 1800 067 639
E-mail address: auinfo@thermofisher.com

Recommended Use: Laboratory chemicals.

Section 2 - Hazard(s) Identification

Classification under the National Occupational Health and Safety Commission (NOHSC), Australia

Classified as hazardous according to criteria of NOHSC

Physical hazards

Substances/mixtures corrosive to metal
Category 1

Health hazards

Serious Eye Damage/Eye Irritation
Category 1

Environmental hazards
No hazards identified

Label Elements

Signal Word: Danger

Hazard Statements
H290 - May be corrosive to metals
H318 - Causes serious eye damage

Precautionary Statements
P234 - Keep only in original container
Sodium bisulphate monohydrate

SAFETY DATA SHEET

Section 3 - Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrogen sulfate, monohydrate</td>
<td>10034-88-5</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

Section 4 - First Aid Measures

Inhalation  Move to fresh air.

Ingestion  Clean mouth with water and drink afterwards plenty of water.

Skin Contact  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye Contact  Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Protection of First-aiders  Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

First Aid Facilities  Eyewash, safety shower and washroom.

Most important symptoms/effects  Causes eye burns. Causes severe eye damage.

Notes to Physician  Treat symptomatically.

Section 5 - Fire Fighting Measures

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

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures
Ensure adequate ventilation.

Environmental Precautions
See Section 12 for additional ecological information.
Section 7 - Handling and Storage

Precautions for Safe Handling
Ensure adequate ventilation.

Conditions for Safe Storage, Including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits
The product does not contain any hazardous materials with occupational exposure limits established.

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

Exposure Controls
Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection
Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection
Protective gloves

Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
---------------|------------------|----------------|-----------------|---------------|
Natural rubber | See manufacturers recommendations | - | AS/NZS 2161.1 | (minimum requirement) |
Nitrile rubber | | | | |
Neoprene PVC | | | | |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection
Long sleeved clothing

Respiratory Protection
Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type:
Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

Recommended half mask:-
Particle filtering: EN149:2001 (or AUS/NZ equivalent)
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
No information available.

Section 9 - Physical and Chemical Properties
Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available ~1</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>58 °C / 136.4 °F</td>
</tr>
<tr>
<td>Softening Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosibility (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity / Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
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<tr>
<td>Molecular Formula</td>
<td>HNaO4S.H2 O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>138.08</td>
</tr>
</tbody>
</table>

Section 10 - Stability and Reactivity

Reactivity
None known, based on information available

Stability
Stable under normal conditions.

Conditions to Avoid
Heat, flames and sparks.

Hazardous Decomposition Products
None under normal use conditions.

Hazardous Polymerization
No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information
(a) acute toxicity;
   Oral: No data available
   Dermal: No data available
   Inhalation: No data available

(b) skin corrosion/irritation;
   No data available

(c) serious eye damage/irritation;
   Category 1

(d) respiratory or skin sensitization;
Respiratory
No data available
Skin
No data available

(e) germ cell mutagenicity;
No data available

(f) carcinogenicity;
No data available

(g) reproductive toxicity;
No data available
(h) STOT-single exposure;
No data available
(i) STOT-repeated exposure;
No data available

Target Organs
None known.

(j) aspiration hazard;
Not applicable

Solid

Symptoms / effects, both acute and delayed
No information available

Section 12 - Ecological Information

Ecotoxicity effects
Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Persistence and Degradability
No information available

Degradability
Not relevant for inorganic substances.

Bioaccumulative Potential
No information available

Mobility
No information available.

Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant
This product does not contain any known or suspected substance

Ozone Depletion Potential
This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues / Unused Products
Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging
Dispose of this container to hazardous or special waste collection point.

Other Information
Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not dispose of waste into sewer.

Section 14 - Transport Information

IMDG/IMO

UN-No
UN3260
Proper Shipping Name
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name
Sodium hydrogen sulphate monohydrate
Hazard Class
8
Packing Group
III

ADG

UN-No
UN3260
Proper Shipping Name
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name
Sodium hydrogen sulphate monohydrate
Hazard Class
8
Packing Group
III
IATA
UN-No
UN3260
Proper Shipping Name
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name
Sodium hydrogen sulphate monohydrate
Hazard Class
8
Packing Group
III
Environmental hazards
No hazards identified
Special Precautions
No special precautions required
Additional information
None known

Section 15 - Regulatory Information

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

<table>
<thead>
<tr>
<th>International Inventories</th>
<th>AICS</th>
<th>NZIoC</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrogen sulfate, monohydrate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

Standard for the Uniform Scheduling of Medicines and Poisons
Not Scheduled

Prohibition or notification/licensing requirements
Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

Section 16 - Other Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 - Lethal Dose 50%</th>
<th>EC50 - Effective Concentration 50%</th>
<th>WEL - Workplace Exposure Limit</th>
<th>DNEL - Derived No Effect Level</th>
<th>POW - Partition coefficient Octanol:Water</th>
<th>vPvB - very Persistent, very Bioaccumulative</th>
<th>VOC - Volatile Organic Compounds</th>
</tr>
</thead>
</table>

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLO, Merck index, RTECS

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
This safety data sheet complies with the requirements of Safe Work Australia WHS Regulation

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