SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0
Creation Date: Aug 16, 2017
Revision Date: Aug 16, 2017

1. Identification

1.1 GHS Product identifier

Product name: Ammonium thiosulfate

1.2 Other means of identification

Product number: -
Other names: diazanium, dioxi-dio-oxo-sulfanylidene-\(\lambda^{6}\)-sulfane

1.3 Recommended use of the chemical and restrictions on use

Identified uses: For industry use only. Agricultural chemicals (non-pesticidal), Photosensitive chemicals, Processing aids, not otherwise listed, Solids separation agents
Uses advised against: no data available

2. Hazard identification

2.1 Classification of the substance or mixture

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s): No symbol.
Signal word: No signal word.
Hazard statement(s): none
Precautionary
2.3 Other hazards which do not result in classification
none

3. Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common names and synonyms</th>
<th>CAS number</th>
<th>EC number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium thiosulfate</td>
<td>Ammonium thiosulfate</td>
<td>7783-18-8</td>
<td>none</td>
<td>100%</td>
</tr>
</tbody>
</table>

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

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

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with
water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

Inhalation of dust may irritate respiratory system. Ingestion could be harmful. Contact with eyes or skin may cause irritation. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Absorption, Distribution and Excretion

POORLY ABSORBED FROM ALIMENTARY TRACT AND SO ACTS AS AN OSMOTIC CATHARTIC. /THIOSULFATE SALTS/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic ammonia, hydrogen sulfide, and oxides of nitrogen and sulfur may form in fires. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected
according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state  clear solution

Colour  COLORLESS, MONOCLINIC CRYSTALS

Odour  AMMONIA ODOR

Melting point/ freezing point  150°C

Boiling point or initial boiling point and boiling range  Decomposes

Flammability  no data available

Lower and upper explosion limit / flammability limit  no data available

Flash point  no data available

Auto-ignition temperature  no data available

Decomposition temperature  no data available

pH  6.5-7.0 (60% soln)

Kinematic viscosity  no data available

Solubility  64 % at 20°C

Partition coefficient n-octanol/water (log value)  no data available

Vapour pressure  0 mm Hg

Density and/or relative density  1.679g/mL at 25°C (lit.)
10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Solutions decompose slowly below 50°C and more rapidly at higher temperatures. The anhydrous salt decomposes above 100°C to sulfite and sulfur.

10.3 Possibility of hazardous reactions

AMMONIUM THIOSULFATE is sensitive to heat. This chemical is incompatible with magnesium and aluminum powder. Mixtures with sodium chlorate can cause an exothermic reaction which can then decompose explosively. Reacts with strong oxidizers such as chlorates, nitrates, and nitrites to release toxic ammonia, hydrogen sulfide, and sulfur trioxide gases. Will not polymerize. Ammonia, hydrogen sulfide, and oxides of nitrogen and oxides of sulfur may form in fires (USCG, 1999).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

Decomposed by heat

11. Toxicological information

Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available
Skin corrosion/irritation
no data available

Serious eye damage/irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
no data available

Reproductive toxicity
no data available

STOT-single exposure
no data available

STOT-repeated exposure
no data available

Aspiration hazard
no data available

12. Ecological information

12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

no data available
12.3 Bioaccumulative potential

BOD: 0.62 LB/LB, 5 DAYS

12.4 Mobility in soil

no data available

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number


14.2 UN Proper Shipping Name

ADR/RID: unknown  IMDG: unknown  IATA: unknown

14.3 Transport hazard class(es)

ADR/RID: Not dangerous  IMDG: Not dangerous  IATA: Not dangerous
14.4 Packing group, if applicable

ADR/RID: Not dangerous goods.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

14.6 Special precautions for user

no data available

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

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

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<tr>
<td>European Inventory of Existing Commercial Chemical</td>
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<td>Chemical Substances (EINECS)</td>
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<td>Substances (China IECSC)</td>
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16. Other information

Information on revision
Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
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