1 Identification of substance:

Product details:
Product name: Sodium thiosulfate, 0.1N standardized solution
Stock number: 35645
Manufacturer/Supplier:
Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com
Information Department: Health, Safety and Environmental Department
Emergency information:
During normal hours the Health, Safety and Environmental Department.
After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:
Description: (CAS#)
Sodium thiosulfate (CAS# 7772-98-7); 1.58%
Water (CAS# 7732-18-5); 98.42%

3 Hazards identification

Hazard description: Not applicable
Information pertaining to particular dangers for man and environment
Not applicable
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE</td>
<td>0</td>
</tr>
<tr>
<td>REACTIVITY</td>
<td>0</td>
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</tbody>
</table>

Health (acute effects) = 1
Flammability = 0
Reactivity = 0

4 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.
5 Fire fighting measures

Suitable extinguishing agents
Product is not flammable. Use fire fighting measures that suit the surrounding fire.

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

6 Accidental release measures

Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Measures for environmental protection:
Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collection:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Additional information:
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
No special precautions are necessary if used correctly.

Information about protection against explosions and fires:
The product is not flammable

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

Information about storage in one common storage facility:
Aqueous solutions are incompatible with alkali and alkaline earth metals and many reactive organic and inorganic chemicals.

Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8 Exposure controls and 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.

Components with limit values that require monitoring at the workplace:
Not required.

Additional information: No data
9 Physical and chemical properties:

<table>
<thead>
<tr>
<th>General Information</th>
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<tbody>
<tr>
<td>Form:</td>
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<tr>
<td>Color:</td>
</tr>
<tr>
<td>Odor:</td>
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<table>
<thead>
<tr>
<th>Change in condition</th>
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<tbody>
<tr>
<td>Melting point/Melting range:</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
</tr>
<tr>
<td>Sublimation temperature / start:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash point:</th>
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<tbody>
<tr>
<td>Not applicable</td>
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<tr>
<td>Not determined</td>
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<table>
<thead>
<tr>
<th>Ignition temperature:</th>
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</thead>
<tbody>
<tr>
<td>Not determined</td>
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</table>

<table>
<thead>
<tr>
<th>Decomposition temperature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined</td>
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</table>

<table>
<thead>
<tr>
<th>Danger of explosion:</th>
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</thead>
<tbody>
<tr>
<td>Product does not present an explosion hazard.</td>
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<table>
<thead>
<tr>
<th>Explosion limits:</th>
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<tbody>
<tr>
<td>Lower:</td>
</tr>
<tr>
<td>Upper:</td>
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<tr>
<th>Vapor pressure:</th>
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<tbody>
<tr>
<td>Not determined</td>
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<table>
<thead>
<tr>
<th>Density:</th>
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<tbody>
<tr>
<td>Not determined</td>
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<table>
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<tr>
<th>Solubility in / Miscibility with Water:</th>
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<tbody>
<tr>
<td>Fully miscible</td>
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</tbody>
</table>

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Materials to be avoided: Oxidizing agents
Aqueous solutions are incompatible with alkali and alkaline earth metals and many reactive organic and inorganic chemicals.

Dangerous reactions Reacts with alkali metals.
Reacts with alkaline earth metals.
**Material Safety Data Sheet**

**acc. to OSHA and ANSI**

Printing date 12/19/2007  
Reviewed on 02/26/2007

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<table>
<thead>
<tr>
<th>Product name: Sodium thiosulfate, 0.1N standardized solution</th>
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</thead>
<tbody>
<tr>
<td><strong>Dangerous products of decomposition:</strong> Sulfur dioxide</td>
</tr>
</tbody>
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**11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
  - on the skin: May cause irritation
  - on the eye: May cause irritation
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
  Ingestion may cause cyanosis. Large doses may have a cathartic effect.

**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, IARC, NTP, OSHA or ACGIH.

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**12 Ecological information:**

- **General notes:**
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  Do not allow material to be released to the environment without proper governmental permits.

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**13 Disposal considerations**

- **Product:**
- **Recommendation**
  Consult state, local or national regulations to ensure proper disposal.

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

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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**14 Transport information**

Not a hazardous material for transportation.

<table>
<thead>
<tr>
<th><strong>DOT regulations:</strong></th>
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<tbody>
<tr>
<td><strong>Hazard class:</strong></td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

| **Land transport ADR/RID**      |
| (cross-border)                  |
| **ADR/RID class:**              |
| None                            |

| **Maritime transport IMDG:**    |
| **IMDG Class:**                 |
| None                            |

| **Air transport ICAO-TI and IATA-DGR:** |
| **ICAO/IATA Class:**               |
| None                                |

**Transport/Additional information:**
Not dangerous according to the above specifications.
Product name: Sodium thiosulfate, 0.1N standardized solution

15 Regulations

Product related hazard information:
Observe the general safety regulations when handling chemicals

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

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

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: Paul V. Connolly