

Product Safety Summary

Sodium Tetrasulfide Solution (34 % minimum) (CAS No. 12034-39-8)

This Product Safety Summary is intended to provide a general overview of the chemical substance. The information on the summary is basic information and is not intended to provide emergency response information, medical information or treatment information. The summary should not be used to provide in-depth safety and health information. In-depth safety and health information can be found on the Material Safety Data Sheet (MSDS) for the chemical substance.

Names

- Sodium tetrasulfide (tetrasulphide)

Product Overview

Sodium tetrasulfide is a dark red liquid with a slight sulfurous (rotten egg) smell. It is used in the metals industry, in mining (ore processing) and to purify flue (exhaust) gas.

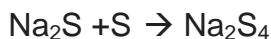
Solvay Chemicals, Inc. does not sell sodium tetrasulfide solution directly to consumers. Consumers are unlikely to be exposed to sodium tetrasulfide in any of the consumer product applications listed above and only where the tetrasulfide is not transformed or reacted.

Exposure to sodium tetrasulfide can cause irritation to the skin, eyes, and respiratory tract. Breathing sodium tetrasulfide vapors may irritate the throat and ingestion may cause burns in the mouth and the esophagus or stomach, nausea, vomiting and diarrhea.

Manufacture of Product

- Solvay Chemicals, Inc. imports the sodium tetrasulfide it sells from a Solvay Affiliate in Mexico.

- Solvay manufactures sodium tetrasulfide by reacting elemental sulfur with sodium sulfide in solution.



Product Description

Sodium tetrasulfide (Na₂S₄) is manufactured and sold as a dark red liquid with a slight sulfurous (rotten egg) smell. Typical physical properties are provided in Table 1.

Table 1: Typical physical properties of Sodium Tetrasulfide

Relative Density	1.27 @ 60° F (15.5° C))
Boiling point	235° F (113° C)
Freezing point	approx. 5 to 10 ° F (-12 to-15 °C)
Solubility in water	Mixes completely
pH	12.9 (10 g/L @ 68° F (20° C))

Product Uses

Sodium tetrasulfide is used in many industries; for example, it is used the metals industry, ore processing and to purify flue (exhaust) gas.

Exposure Potential

- Workplace exposure** - Exposures can occur at a sodium tetrasulfide manufacturing facility or a manufacturing, packaging or storage facility that handles sodium tetrasulfide. Exposure may also occur in the event of a transportation incident. Persons involved in maintenance, sampling and testing activities, or in the loading and unloading of sodium tetrasulfide containers are at greater risk of exposure. Following good industrial hygiene practices will minimize the likelihood of sodium tetrasulfide exposure; however, persons involved in higher risk activities should always wear proper personal

protective equipment such as protective gloves and goggles. In instances where the potential for dusting is high, proper respiratory protection should also be worn.

- **Consumer exposure to products containing sodium tetrasulfide** - Solvay Chemicals, Inc. does not sell sodium tetrasulfide directly to consumers. Consumers are unlikely to be exposed to sodium tetrasulfide in any of the consumer product applications listed above and only where it is not fully transformed or reacted.
- **Environmental releases** - Spills of sodium tetrasulfide should be contained and isolated from waterways and sewers or drains. Spills should be soaked up and placed in a compatible container. Dispose of waste or residues in accordance with applicable local, state or federal regulations. Persons attempting to clean up sodium tetrasulfide spills should wear proper personal protective equipment (See guidelines in the Workplace exposure section of this document or the [Material Safety Data Sheet](#)).
- **Fires** – Sodium tetrasulfide is not flammable or combustible. Fires that occur in the presence of sodium tetrasulfide should be extinguished using powder or foam. Do NOT use carbon dioxide (CO₂) or water. When sodium tetrasulfide decomposes (at very high temperatures), it liberates sulfur dioxide (SO₂) gas.

For additional information concerning sodium tetrasulfide emergency response procedures, please consult the [Material Safety Data Sheet](#).

Health Information

Sodium tetrasulfide is not typically found in consumer products. If present in a consumer product, it should pose little a risk of symptoms due to being used in very low concentrations. Sodium tetrasulfide can produce the following adverse health affects:

- **Contact** - Skin exposures can cause burns. Eye exposure to sodium tetrasulfide may result in serious eye irritation and damage. Exposure to large quantities may cause blindness.
- **Inhalation** - The inhalation of sodium tetrasulfide vapor can cause nose and throat irritation.
- **Ingestion** - The ingestion of sodium tetrasulfide may cause burns of the mouth and throat, nausea, vomiting and diarrhea with abdominal pain.
- **Other Effects** - The International Agency for Research on Cancer (IARC) has not classified sodium sulfide as a carcinogen (cancer causing).



For more information on health effects and routes of exposure, or for information concerning proper first aid measures, please consult the [Material Safety Data Sheet](#).

Environmental Information

Sodium tetrasulfide is considered to be environmentally toxic.

For more ecological and environmental information concerning this product, please consult the [Material Safety Data Sheet](#).

Physical Hazard Information

For more information concerning the physical hazards of this product, please consult the [Material Safety Data Sheet](#).

Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of this chemical. These regulations can vary by city, state, country or geographic region. Information may be found by consulting the relevant [Material Safety Data Sheet](#) specific to your country or region.

Additional Information

- Solvay America, Inc. www.solvaynorthamerica.com
- Solvay Chemicals, Inc. www.solvaychemicals.us
- Solvay Chemicals, Inc. Material Safety Data Sheets www.solvaychemicals.us/EN/Literature/LiteratureDocuments.aspx
- Contact Solvay Chemicals, Inc. solvaychemicals.us@solvay.com
- This summary was prepared in August, 2011.

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