

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: Sodium bis(trimethylsilyl)amide Solution

Product Code: NA-TMSAM-01-SOL

CAS Number: 1070-89-9

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
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Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

GHS07

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified No data available.

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)





Hazard pictograms

GHS02 GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

Tetrahydrofuran

Sodium bis(trimethylsilyl)amide

Hazard statements

H225 Highly flammable liquid and vapor.

H314 Causes severe skin burns and eye damage.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B2 - Flammable liquid

D2B - Toxic material causing other toxic effects

E - Corrosive material

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

3

3

2

Health (acute effects) = 3

Flammability = 3

Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment:

PBT: N/A.

vPvB: N/A.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Dangerous components:

109-99-9 Tetrahydrofuran Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 79.37%

1070-89-9 Sodium bis(trimethylsilyl)amide Water-react. 2, H261; Skin Corr. 1B, H314; Eye Dam. 1, H318 20.63%

Additional information None known.

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General information Immediately remove any clothing soiled by the product.

If inhaled:

Supply fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed: Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

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

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

For safety reasons unsuitable extinguishing media Water

Special hazards arising from the substance or mixture

Reacts violently with water

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Silicon oxide

Sodium oxide

Nitrogen oxides (NO_x)

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions: Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleanup:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Prevention of secondary hazards: Keep away from ignition sources.
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.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure adequate ventilation.
Open and handle container with care.
Information about protection against explosions and fires:
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away.
Do not distill to dryness.
Explosive peroxides may form, handle container cautiously.
Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility:
Store away from water/moisture.
Store away from oxidizing agents.
Further information about storage conditions:
Store under dry inert gas.
This product is moisture sensitive.
Protect from humidity and water.
Store in cool, dry conditions in well-sealed containers.
Avoid contact with air/oxygen (formation of peroxide).
Check container pressure periodically to prevent explosive peroxides.
Specific end use(s) No information available.

SECTION 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:
109-99-9 Tetrahydrofuran (79.37%)
PEL (USA) Long-term value: 590 mg/m³, 200 ppm
REL (USA) Short-term value: 735 mg/m³, 250 ppm
Long-term value: 590 mg/m³, 200 ppm
TLV (USA) Short-term value: 295 mg/m³, 100 ppm
Long-term value: 147 mg/m³, 50 ppm

Skin
EL (Canada) Short-term value: 100 ppm
Long-term value: 50 ppm
Skin
EV (Canada) Short-term value: 100 ppm
Long-term value: 50 ppm
Skin
Ingredients with biological limit values:
109-99-9 Tetrahydrofuran (79.37%)
BEI (USA) 2 mg/L
Medium: urine
Time: end of shift
Parameter: Tetrahydrofuran
Additional information: No data
Exposure controls
Personal protective equipment
Follow typical general protective and industrial hygiene measures for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Do not inhale dust / smoke / mist.
Avoid contact with the eyes and skin.
Breathing equipment: Use suitable respirator when high concentrations are present.
Recommended filter device for short term use:
Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).
Protection of hands:
Impervious gloves
Inspect gloves prior to use.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Material of gloves Fluorocarbon rubber (Viton)
Penetration time of glove material (in minutes) 30
Glove thickness 0.7 mm
Eye protection:
Tightly sealed goggles
Full face protection
Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Yellow

Odor: No data available.

Odor threshold: No data available.

pH: No data available.

Melting point/range: No data available.

Boiling point/range: No data available.

Sublimation temperature / start: No data available.
Flash point: -17 °C (1 °F)
Flammability (solid, gas): No data available.
Ignition temperature: 321 °C (610 °F)
Decomposition temperature: No data available.
Auto igniting: Product is not selfigniting.
Danger of explosion: May form explosive peroxides.
Do not distill to dryness.
Explosion limits:
Lower: 2.0 Vol %
Upper: 11.8 Vol %
Vapor pressure at 20 °C (68 °F): 200 hPa (150 mm Hg)
Density at 20 °C (68 °F): 0.904 g/cm³ (7.544 lbs/gal)
Relative density No data available.
Vapor density No data available.
Evaporation rate No data available.
Solubility in / Miscibility with
Water: Reacts violently
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: No data available.
Kinematic: No data available.
Solvent content:
Organic solvents: 79.4 %
Solids content: 20.6 %
Other information No information available.
Additional information This product may form a precipitate.

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Reacts violently with water.
May form explosive peroxides.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with strong oxidizing agents
Reacts violently with water
May form explosive peroxides.
Conditions to avoid No information available.
Incompatible materials:
Oxidizing agents
Water/moisture
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Silicon oxide
Sodium oxide
Nitrogen oxides
Additional information: This product may form a precipitate.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

109-99-9 Tetrahydrofuran

Oral LD50 1650 mg/kg (rat)

Inhalative LC50/2H 72000 mg/m³/2H (rat)

Skin irritation or corrosion: Causes severe skin burns.

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.

Carcinogenicity:

Suspected of causing cancer.

EPA-S: Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.

Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.

Specific target organ system toxicity - repeated exposure: N/A

Specific target organ system toxicity - single exposure: May cause respiratory irritation.

Aspiration hazard: N/A

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities to reach ground water, water course or sewage

system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment:

PBT: N/A.

vPvB: N/A.

Other adverse effects No information available.

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA UN2924

UN proper shipping name

DOT Flammable liquids, corrosive, n.o.s. (Sodium bis(trimethylsilyl)amide, Tetrahydrofuran)

IMDG, IATA FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Sodium bis(trimethylsilyl)amide, TETRAHYDROFURAN)

Transport hazard class(es)

DOT

Class 3 Flammable liquids.

Label 3+8

Class 3 (FC) Flammable liquids

Label 3+8

IMDG, IATA

Class 3 Flammable liquids.

Label 3+8

Packing group

DOT, IMDG, IATA III

Environmental hazards:

Marine pollutant (IMDG): No

Special precautions for user Warning: Flammable liquids

EMS Number: F-E,S-C

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A.

Transport/Additional information:

DOT

Marine Pollutant (DOT): No

UN "Model Regulation": UN2924, Flammable liquids, corrosive, n.o.s. (Sodium bis(trimethylsilyl)amide, Tetrahydrofuran), 3 (8), III

SECTION 15. REGULATORY INFORMATION

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms
GHS02 GHS05 GHS07 GHS08
Signal word Danger
Hazard-determining components of labeling:
Tetrahydrofuran
Sodium bis(trimethylsilyl)amide
Hazard statements
H225 Highly flammable liquid and vapor.
H314 Causes severe skin burns and eye damage.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
The components of this product are listed on the Canadian Domestic Substances List (DSL) and/or the Canadian Non-Domestic Substances List (NDSL).
SARA Section 313 (specific toxic chemical listings)
109-99-9 Tetrahydrofuran 79.37%
California Proposition 65
Prop 65 - Chemicals known to cause cancer
None of the ingredients are listed.
Prop 65 - Developmental toxicity
None of the ingredients are listed.
Prop 65 - Developmental toxicity, female
None of the ingredients are listed.
Prop 65 - Developmental toxicity, male
None of the ingredients are listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
None of the ingredients are listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
None of the ingredients is listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
None of the ingredients is listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The

information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.