

# Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 06/25/2015

Reviewed on 05/20/2015

## \* 1 Identification

- **Product identifier**
- **Trade name:** Thiofluor™
- **Product number:** 3700-2000
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Product description** Thiofluor™ (2-(Dimethylamino)ethanethiol Hydrochloride)
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Pickering Laboratories, Inc.  
1280 Space Park Way  
Mountain View, CA 94043  
Phone: (650) 694-6700  
Fax: (650) 968-0749  
www.pickeringlabs.com  
support@pickeringlabs.com
- **Emergency telephone number:**  
Clean Harbors Environmental Services  
1-800-645-8265

## \* 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2-(dimethylamino)ethanethiol hydrochloride

- **Hazard statements**

Causes skin irritation.

Causes serious eye damage.

May cause respiratory irritation.

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· **Precautionary statements**

- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves.
- Wear eye protection / face protection.
- Wash thoroughly after handling.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a poison center/doctor if you feel unwell.
- If skin irritation occurs: Get medical advice/attention.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMS-ratings (scale 0 - 4)**



· **Hazard(s) not otherwise classified (HNOC):** None known

\* **3 Composition/information on ingredients**

CAS: 13242-44-9	2-(dimethylamino)ethanethiol hydrochloride	100%
RTECS: KJ 1051000	⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315; STOT SE 3, H335	

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous Components:** Non-Regulated Material

\* **4 First-aid measures**

· **Description of first aid measures**

- **General information:** No special measures required.
- **After inhalation:** Remove affected person to fresh air. Seek medical attention if symptoms persist.
- **After skin contact:**  
Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical assistance.
- **After eye contact:**  
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- **After swallowing:**  
If conscious, rinse mouth with water ensuring that the rinse is not swallowed. Seek medical assistance.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### \* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon Dioxide (CO<sub>2</sub>)  
Carbon monoxide (CO)  
Sulphur dioxide (SO<sub>2</sub>)  
Hydrogen chloride (HCl)
- **Advice for firefighters**
- **Protective equipment:**  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Avoid breathing dust.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use the appropriate tools to collect the material and dispose of it in an approved waste disposal container.  
Dispose contaminated material as waste according to section 13.
- **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.

### \* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Avoid contact with skin, eyes and clothing  
Avoid breathing dust.  
Use personal protection equipment as outlined in section 8.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in dry conditions at a temperature range of 8°C - 25°C.  
Handle and store under inert gas. Hygroscopic. Air and moisture sensitive.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

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- **Control parameters**
- **Components with occupational exposure limits:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Use adequate exhaust ventilation to prevent inhalation of dust particles.  
Do not eat or drink while handling product.  
Avoid contact with the eyes and skin.  
Wash hands before breaks and at the end of work.  
Immediately remove all soiled and contaminated clothing and wash before reuse.
- **Breathing equipment:**



NIOSH approved respirator, as conditions warrant.

- **Protection of hands:**



Protective gloves

- **Material of gloves** Rubber, latex or vinyl.
- **Penetration time of glove material**  
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:**



Tightly sealed goggles

### \* 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Crystalline
<b>Color:</b>	White
- **Odor:** Slight
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

<b>Melting point/Melting range:</b>	158-160 °C (316-320 °F)
<b>Boiling point/Boiling range:</b>	Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.

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- **Ignition temperature:**
  - **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Vapor pressure:** Not applicable.
- **Density:**
  - **Relative density** Not determined.
  - **Vapor density** Not applicable.
  - **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with Water:** Soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - **Dynamic:** Not applicable.
  - **Kinematic:** Not applicable.
- **Other information** No further relevant information available.

### \* 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** Carbon dioxide and carbon monoxide may form when heated to decomposition
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
  - Dust generation.
  - Avoid strong oxidizers.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** Carbon dioxide, carbon monoxide and nitrogen oxides.
- **Additional information:** Light and air sensitive.

### \* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
  - **on the skin:** Mild irritant effect.
  - **on the eye:** Mild irritant effect.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**
  - The product is not subject to classification according to internally approved calculation methods for preparations:
  - When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**  
Substance is not listed.

None of the ingredients are listed.
· <b>NTP (National Toxicology Program)</b>
None of the ingredients are listed.
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
None of the ingredients are listed.

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**\* 13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Do not allow product to reach sewage system.  
This product may be mixed with a combustible solvent and burned in a chemical incinerator equipped with an after burner and scrubber. This product can also be sent to an EPA approved waste disposal facility.  
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**\* 14 Transport information**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IATA</b></li> <li>· <b>ADR, ADN, IMDG</b></li> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR, ADN, IMDG</b></li> <li>· <b>IATA</b></li> </ul> | <p>UN3335<br/>Non-Regulated Material<br/><br/>Aviation regulated solid, n.o.s.<br/>Non-Regulated Material<br/>Aviation regulated solid, n.o.s. (2-(dimethylamino)ethanethiol hydrochloride)</p> |
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**Trade name: Thiofluor™**

- **Transport hazard class(es)**
- **DOT, IATA**



- **Class** 9 Miscellaneous dangerous substances and articles
- **Label** 9

- **ADR, ADN, IMDG**
- **Class** Non-Regulated Material
- **Packing group**
- **DOT, IATA** III
- **ADR, IMDG** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 400 kg  
On cargo aircraft only: 400 kg
- **UN "Model Regulation":** -

**\* 15 Regulatory information**

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

<ul style="list-style-type: none"> <li>· <b>Section 355 (extremely hazardous substances):</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Section 313 (Specific toxic chemical listings):</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>TSCA (Toxic Substances Control Act):</b></li> </ul>	All ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>California Proposition 65</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause cancer:</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause reproductive toxicity for females:</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause reproductive toxicity for males:</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause developmental toxicity:</b></li> </ul>	None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Carcinogenic categories</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>EPA (Environmental Protection Agency)</b></li> </ul>	None of the ingredients are listed.

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· <b>TLV (Threshold Limit Value established by ACGIH)</b>
None of the ingredients are listed.

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
None of the ingredients are listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

2-(dimethylamino)ethanethiol hydrochloride

· **Hazard statements**

- Causes skin irritation.
- Causes serious eye damage.
- May cause respiratory irritation.

· **Precautionary statements**

- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves.
- Wear eye protection / face protection.
- Wash thoroughly after handling.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a poison center/doctor if you feel unwell.
- If skin irritation occurs: Get medical advice/attention.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· <b>National regulations:</b>
The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· <b>State Right to Know</b>
CAS: 13242-44-9    2-(dimethylamino)ethanethiol hydrochloride    100%
RTECS: KJ 1051000    ⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315; STOT SE 3, H335
All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not (Contd. on page 9)



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establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision** 06/25/2015 / 4

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· **\* Data compared to the previous version altered.**

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