



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 02/13/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	818116
Product name	1,8-Diamino-3,6-dioxaoctane for synthesis

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Skin corrosion, Category 1B, H314  
Skin sensitization, Category 1, H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### Hazard pictograms



Signal Word  
Danger

#### Hazard Statements

H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.

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---

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## *Precautionary Statements*

P260 Do not breathe vapors.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

## **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Formula	$C_8H_{16}N_2O_2$ (Hill)
CAS-No.	929-59-9
Molar mass	148.20 g/mol

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *General advice*

First aider needs to protect himself.

#### *Inhalation*

After inhalation: fresh air. Call in physician.

#### *Skin contact*

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

#### *Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

Irritation and corrosion, Cough, Shortness of breath, Nausea, Vomiting, Allergic reactions

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

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---

Version 1.0

### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

Observe label precautions.

### **Conditions for safe storage, including any incompatibilities**

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

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## **SECTION 8. Exposure controls/personal protection**

### **Exposure limit(s)**

### **Engineering measures**

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Product number

818116

Version 1.0

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

## Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

### Eye/face protection

Tightly fitting safety goggles

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### Other protective equipment:

protective clothing

### Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	yellow
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	250 °F ( 121 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.

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Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	1.01 g/cm <sup>3</sup> at 68 °F ( 20 °C)
Water solubility	at 68 °F ( 20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: -2.17 (calculated) Bioaccumulation is not expected (log Pow <1). (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.

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### SECTION 10. Stability and reactivity

#### Reactivity

Forms explosive mixtures with air on intense heating.

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitosamines!

Violent reactions possible with:

Strong oxidizing agents, acids

#### Conditions to avoid

Strong heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

#### Incompatible materials

no information available

#### Hazardous decomposition products

in the event of fire: See section 5.

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Version 1.0

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### SECTION 11. Toxicological information

#### Information on toxicological effects

##### *Acute oral toxicity*

Symptoms: Nausea, Vomiting, If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

##### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract

##### *Skin irritation*

Causes burns.

##### *Eye irritation*

Risk of blindness!

Causes serious eye damage.

##### *Sensitization*

May cause an allergic skin reaction.

##### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

##### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

##### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

#### Further information

The following applies to aliphatic amines in general: irritations after contact with eyes and skin.

Mucosal irritations, coughing, and dyspnoea after inhalation.

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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### SECTION 12. Ecological information

#### Ecotoxicity

No information available.

#### Persistence and degradability

No information available.

#### Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: -2.17

(calculated)

Bioaccumulation is not expected (log Pow <1). (Lit.)

#### Mobility in soil

No information available.

#### Other adverse effects

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Version 1.0

## *Additional ecological information*

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.

Discharge into the environment must be avoided.

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## SECTION 14. Transport information

### Land transport (DOT)

UN number UN 2735  
Proper shipping name AMINES, LIQUID, CORROSIVE, N.O.S. ( 1,8-DIAMINO-3,6-DIOXAOCTANE)  
Class 8  
Packing group II  
Environmentally hazardous --

### Air transport (IATA)

UN number UN 2735  
Proper shipping name AMINES, LIQUID, CORROSIVE, N.O.S. ( 1,8-DIAMINO-3,6-DIOXAOCTANE)  
Class 8  
Packing group II  
Environmentally hazardous --  
Special precautions for user no

### Sea transport (IMDG)

UN number UN 2735  
Proper shipping name AMINES, LIQUID, CORROSIVE, N.O.S. ( 1,8-DIAMINO-3,6-DIOXAOCTANE)  
Class 8  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-A S-B

## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Corrosive to skin

Corrosive to eyes

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---

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## Skin sensitizer

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

## SARA 311/312 Hazards

Acute Health Hazard

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

*Ingredients*

1,8-diamino-3,6-dioxaoctane

### New Jersey Right To Know

*Ingredients*

1,8-diamino-3,6-dioxaoctane

## Notification status

TSCA: On TSCA Inventory

DSL: This product contains one or several components listed in the Canadian NDSL.  
*Ingredients*  
1,8-diamino-3,6-dioxaoctane

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements referred to under sections 2 and 3.

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### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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