



# MATERIAL SAFETY DATA SHEET

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

Revision Date 08/22/2013

Version 1.1

## SECTION 1. Identification

### Product identifier

Product number 807064  
Product name Pyrazine for synthesis

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

Identified uses Chemical for synthesis

### 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)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

## SECTION 2. Hazards identification

### GHS Classification

Flammable solid, Category 1, H228

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*  
H228 Flammable solid

*Precautionary Statements*  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P262 Do not get in eyes, on skin, or on clothing.

### OSHA Hazards

# MATERIAL SAFETY DATA SHEET

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

Product number 807064  
Product name Pyrazine for synthesis

Version 1.1

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## Other hazards

None known.

---

## SECTION 3. Composition/information on ingredients

Formula  $C_4H_4N_2$  (Hill)

CAS-No. 290-37-9

Molar mass 80.08 g/mol

Remarks No hazardous ingredients according to the OSHA Hazard Communication Standard 29CFR 19101200.

---

## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most).

Never give anything by mouth to an unconscious person.

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

We have no description of any toxic symptoms.

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

No information available.

---

## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

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

#### *Unsuitable extinguishing media*

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

### Special hazards arising from the substance or mixture

Combustible.

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

Fire may cause evolution of:

nitrogen oxides

### Advice for firefighters

## MATERIAL SAFETY DATA SHEET

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

Product number

807064

Version 1.1

Product name

Pyrazine for synthesis

---

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

In the event of fire, wear self-contained breathing apparatus.

### *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.

---

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

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Ensure adequate ventilation.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

---

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

### **Precautions for safe handling**

Observe label precautions.

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

Tightly closed. Dry. Keep away from heat and sources of ignition.

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

---

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

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

Contains no substances with occupational exposure limit values.

### **Engineering measures**

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*

Change contaminated clothing. Wash hands after working with substance.

### *Eye/face protection*

Safety glasses

---

# MATERIAL SAFETY DATA SHEET

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

Product number  
Product name

807064  
Pyrazine for synthesis

Version 1.1

## *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.

## *Respiratory protection*

required when dusts 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	crystals
Color	colorless
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	49 - 52 °C
Boiling point/boiling range	239 - 244 °F ( 115 - 118 °C) at 1,013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	Flammable solid
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	No information available.
Solubility(ies)	Solvent: Ether 68 °F ( 20 °C) soluble Solvent: ethanol 68 °F ( 20 °C) soluble
Water solubility	at 68 °F ( 20 °C) soluble

# MATERIAL SAFETY DATA SHEET

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

Product number 807064 Version 1.1  
Product name Pyrazine for synthesis

---

Partition coefficient: n-octanol/water	log Pow: -0.26 (experimental) 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	Not classified as explosive.

---

## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

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

### Possibility of hazardous reactions

Violent reactions possible with:

Oxidizing agents, acids

### Conditions to avoid

no information available

### Incompatible materials

no information available

### Hazardous decomposition products

in the event of fire: See section 5.

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact, Ingestion

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations

#### *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.

### Carcinogenicity

IARC No ingredient of this product present at levels greater than or

---

# MATERIAL SAFETY DATA SHEET

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

Product number  
Product name

807064  
Pyrazine for synthesis

Version 1.1

---

	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: -0.26

(experimental)

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

### Mobility in soil

No information available.

---

## 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.

# MATERIAL SAFETY DATA SHEET

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

Product number  
Product name

807064  
Pyrazine for synthesis

Version 1.1

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1325
Proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. ( 1,4-DIAZINE)
Class	4.1
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1325
Proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. ( 1,4-DIAZINE)
Class	4.1
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1325
Proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. ( 1,4-DIAZINE)
Class	4.1
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-G

---

## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Flammable Solid

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

Fire Hazard

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

MATERIAL SAFETY DATA SHEET  
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807064  
Product name Pyrazine for synthesis

---

Version 1.1

**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*

pyrazine

**New Jersey Right To Know**

*Ingredients*

pyrazine

**California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

---

**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.**

H228 Flammable solid

**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).



MATERIAL SAFETY DATA SHEET  
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807064  
Product name Pyrazine for synthesis

---

Version 1.1

Revision Date 08/22/2013

---

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.

*All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.*