



# 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	800820
Product name	Isopentanoic acid 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

Skin corrosion, Category 1B, H314  
Corrosive to Metals, Category 1, H290

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*

Danger

*Hazard Statements*

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

*Precautionary Statements*

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

# MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

Version 1.1

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.

## OSHA Hazards

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	$(\text{CH}_3)_2\text{CHCH}_2\text{COOH}$	$\text{C}_5\text{H}_{10}\text{O}_2$ (Hill)
CAS-No.	503-74-2	
Molar mass	102.13 g/mol	

## Hazardous ingredients

*Chemical Name ( Concentration)*

CAS-No.

*3-methylbutyric acid ( >= 90 % - <= 100 % )*

503-74-2

## 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, irritant effects, Cough, Shortness of breath

Risk of blindness!

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

No information available.

# MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

---

Version 1.1

---

## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, 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.

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.

### 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*

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: Do not breathe vapors, aerosols. Avoid substance contact. 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.

---

## 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).

---

# MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

Version 1.1

---

## 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

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	colorless
Odor	rancid
Odor Threshold	No information available.
pH	3 at 10 g/l 68 °F ( 20 °C)
Melting point	ca. -26 °C
Boiling point/boiling range	349 °F ( 176 °C) at 1,013 hPa

## MATERIAL SAFETY DATA SHEET

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

Product number	800820	Version 1.1
Product name	Isopentanoic acid for synthesis	

---

Flash point	165 °F ( 74 °C) Method: ISO 2719
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.5 %(V)
Upper explosion limit	6.8 %(V)
Vapor pressure	0.5 hPa at 68 °F ( 20 °C)  3.7 hPa at 122 °F ( 50 °C)
Relative vapor density	No information available.
Relative density	0.93 g/cm <sup>3</sup> at 68 °F ( 20 °C)
Water solubility	25 g/l at 68 °F ( 20 °C)
Partition coefficient: n-octanol/water	log Pow: 1.16 (experimental) (Lit.) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	> 572 °F ( > 300 °C)
Viscosity, dynamic	2.4 mPa.s at 68 °F ( 20 °C)
Explosive properties	No information available.
Ignition temperature	824 °F ( 440 °C) Method: DIN 51794
Corrosion	May be corrosive to metals.

---

### 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) .

## MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

---

Version 1.1

### Possibility of hazardous reactions

Violent reactions possible with:

alkalines, Amines, Nitriles, Oxidizing agents

### Conditions to avoid

Strong heating.

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

### Incompatible materials

various metals

### Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Acute oral toxicity*

LD50 rat: > 2,000 mg/kg

OECD Test Guideline 401

Symptoms: 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, Possible damages:, damage of respiratory tract

Corrosive to respiratory system

#### *Acute dermal toxicity*

LD50 rabbit: > 3,000 mg/kg

(HSDB)

#### *Skin irritation*

Causes burns.

#### *Eye irritation*

Causes serious eye damage. Risk of blindness!

#### *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 equal to 0.1% is identified as probable, possible or confirmed

---

## MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

---

Version 1.1

	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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

LC50 *Leuciscus idus* (Golden orfe): 100 - 1,000 mg/l; 96 h (External MSDS)

#### *Toxicity to bacteria*

fermentation tube test EC0 activated sludge: > 1,000 mg/l (External MSDS)

### Persistence and degradability

#### *Biodegradability*

> 65 %

(External MSDS)

Readily biodegradable.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 1.16

(experimental)

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

### Mobility in soil

No information available.

#### *Additional ecological information*

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.

# MATERIAL SAFETY DATA SHEET

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

Product number 800820  
Product name Isopentanoic acid for synthesis

Version 1.1

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number UN 3265  
Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ISOPENTANOIC ACID)  
Class 8  
Packing group II  
Environmentally hazardous --

### Air transport (IATA)

UN number UN 3265  
Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ISOPENTANOIC ACID)  
Class 8  
Packing group II  
Environmentally hazardous --  
Special precautions for user no

### Sea transport (IMDG)

UN number UN 3265  
Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ISOPENTANOIC ACID)  
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

Combustible Liquid  
Corrosive to skin  
Corrosive by inhalation.

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  
Acute Health 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.

## MATERIAL SAFETY DATA SHEET

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

Product number

800820

Version 1.1

Product name

Isopentanoic acid for synthesis

---

### SARA 302

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

### 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

*Ingredients*

3-methylbutyric acid

### Pennsylvania Right To Know

*Ingredients*

3-methylbutyric acid

### New Jersey Right To Know

*Ingredients*

3-methylbutyric acid

### 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.

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

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

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

Product number 800820  
Product name Isopentanoic acid for synthesis

---

Version 1.1

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

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.***