

# SAFETY DATA SHEET

Version 6.12  
Revision Date 09/08/2024  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Petroleum ether  
Product Number : 300314  
Brand : Sigma-Aldrich  
Index-No. : 649-263-00-9  
CAS-No. : 8032-32-4

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

Identified uses : Laboratory chemicals, Synthesis of substances  
Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES  
Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

### 1.4 Emergency telephone

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 1), H224  
Skin irritation (Category 2), H315  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

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Aspiration hazard (Category 1), H304  
Short-term (acute) aquatic hazard (Category 2), H401  
Long-term (chronic) aquatic hazard (Category 2), H411

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

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard Statements

H224 Extremely flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H336 May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing mist or vapors.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391 Collect spillage.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS-No. : 8032-32-4  
EC-No. : 232-453-7  
Index-No. : 649-263-00-9

| Component              | Classification                                                                                                                          | Concentration |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Petroleum ether</b> |                                                                                                                                         |               |
|                        | Flam. Liq. 1; Skin Irrit. 2;<br>STOT SE 3; Asp. Tox. 1;<br>Aquatic Acute 2; Aquatic<br>Chronic 2; H224, H315,<br>H336, H304, H401, H411 | <= 100 %      |

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

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**SECTION 4: First aid measures****4.1 Description of first-aid measures****General advice**

Show this material safety data sheet to the doctor in attendance.

**If inhaled**

After inhalation: fresh air. Call in physician.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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## 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

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

Forms explosive mixtures with air at ambient temperatures.

## 5.3 Advice for firefighters

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

## 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 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 carefully with liquid-absorbent material (e.g.

Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

### Storage class

Storage class (TRGS 510): 3: Flammable liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component       | CAS-No.   | Value | Control parameters                 | Basis                                                                               |
|-----------------|-----------|-------|------------------------------------|-------------------------------------------------------------------------------------|
| Petroleum ether | 8032-32-4 | TWA   | 350 mg/m <sup>3</sup>              | USA. NIOSH Recommended Exposure Limits                                              |
|                 |           | C     | 1,800 mg/m <sup>3</sup>            | USA. NIOSH Recommended Exposure Limits                                              |
|                 |           | TWA   | 500 ppm<br>2,000 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1<br>Limits for Air Contaminants |

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

##### Body Protection

Flame retardant antistatic protective clothing.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387)

respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|                                                 |                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------|
| a) Appearance                                   | Form: liquid<br>Color: colorless                                       |
| b) Odor                                         | No data available                                                      |
| c) Odor Threshold                               | No data available                                                      |
| d) pH                                           | No data available                                                      |
| e) Melting point/freezing point                 | Melting point/ range: < -60 °C (< -76 °F) - (ECHA)                     |
| f) Initial boiling point and boiling range      | 30 - 60 °C 86 - 140 °F - lit.                                          |
| g) Flash point                                  | -49 °C (-56 °F)                                                        |
| h) Evaporation rate                             | No data available                                                      |
| i) Flammability (solid, gas)                    | No data available                                                      |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: ≤ 7.6 %(V)<br>Lower explosion limit: ≥ 1.4 %(V) |
| k) Vapor pressure                               | ≤ 2,400 hPa at 37.8 °C (100.0 °F)                                      |
| l) Vapor density                                | No data available                                                      |
| m) Density                                      | 0.64 g/cm <sup>3</sup> at 25 °C (77 °F) - lit.                         |
| Relative density                                | 0.62 - 0.8815 °C                                                       |
| n) Water solubility                             | practically insoluble                                                  |
| o) Partition coefficient: n-octanol/water       | No data available                                                      |
| p) Autoignition temperature                     | 280 - 470 °C (536 - 878 °F) at 1,013.25 hPa                            |
| q) Decomposition temperature                    | No data available                                                      |
| r) Viscosity                                    | No data available                                                      |
| s) Explosive properties                         | No data available                                                      |
| t) Oxidizing properties                         | none                                                                   |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Vapors may form explosive mixture with air.

### 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.  
Warming.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - > 5,000 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 5.61 mg/l - vapor

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 2 s  
(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Buehler Test - Guinea pig

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Result: negative  
(OECD Test Guideline 406)

### **Germ cell mutagenicity**

No data available

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test

Species: Rat

Cell type: Bone marrow

Application Route: Inhalation

Method: US-EPA

Result: negative

Test Type: Chromosome aberration test

Species: Rat

Cell type: Bone marrow

Application Route: Intraperitoneal

Method: OECD Test Guideline 475

Result: negative

### **Carcinogenicity**

No data available

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

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

May cause drowsiness or dizziness.

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

No data available

#### **Aspiration hazard**

Aspiration may cause pulmonary edema and pneumonitis.

## **11.2 Additional Information**

RTECS: OI6180000

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada

**Millipore  
Sigma**



To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish                      LC50 - Fish - 1 - 10 mg/l - 96 h  
Remarks: Expert judgment

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## SECTION 14: Transport information

### DOT (US)

UN number: 1268    Class: 3                      Packing group: I  
Proper shipping name: Petroleum distillates, n.o.s.  
Reportable Quantity (RQ): 10 lbs  
Poison Inhalation Hazard: No

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada

**MILLIPORE  
SIGMA**

**IMDG**

UN number: 1268 Class: 3 Packing group: I  
 Proper shipping name: PETROLEUM DISTILLATES, N.O.S.  
 Marine pollutant : yes

EMS-No: F-E, S-E

**IATA**

UN number: 1268 Class: 3 Packing group: I  
 Proper shipping name: Petroleum distillates, n.o.s.

**SECTION 15: Regulatory information****CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|------------|---------|--------------------|-----------------------------|
| benzene    | 71-43-2 | 10                 | 10 (D018)                   |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Fire Hazard  
 Acute Health Hazard

**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.

**US State Regulations****Massachusetts Right To Know**

benzene 71-43-2

**Pennsylvania Right To Know**

Petroleum ether 8032-32-4

**Maine Chemicals of High Concern**

benzene 71-43-2

**Vermont Chemicals of High Concern**

benzene 71-43-2

**Washington Chemicals of High Concern**

benzene 71-43-2

**California Prop. 65**

**WARNING:** This product can expose you to chemicals including benzene, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**The ingredients of this product are reported in the following inventories:**

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TSCA : All substances listed as active on the TSCA inventory

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## **SECTION 16: Other information**

### **Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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