

# SAFETY DATA SHEET

Date Printed: 05/19/2024

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## SECTION 1. IDENTIFICATION

**Product Identifier:** >99% Methyl Iodide

**Product Code:** METH-I-02-LIQ

**CAS Number:** 74-88-4

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 3), H311

Skin corrosion (Category 1A), H314

Serious eye damage (Category 1), H318

Respiratory sensitisation (Category 1), H334

Skin sensitisation (Category 1), H317

Carcinogenicity (Category 2), H351

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H301 + H311 Toxic if swallowed or in contact with skin

H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H330 Fatal if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
Precautionary statement(s)  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/ fume/ gas/ mist/ Vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
P305 + P351 + P338 + P310 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 or doctor/ physician.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
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  
Vesicant., Rapidly absorbed through skin.

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.1 Substances**

Synonyms : Methyl iodide

Formula : CH<sub>3</sub>I

Molecular weight : 141.94 g/mol

CAS-No. : 74-88-4

EC-No. : 200-819-5

Index-No. : 602-005-00-9

Hazardous components

Component Classification Concentration

Methyl iodide

Acute Tox. 3; Acute Tox. 2;

Acute Tox. 3; Skin Corr. 1A;

Eye Dam. 1; Resp. Sens. 1;

Skin Sens. 1; Carc. 2; STOT  
SE 3; H301 + H311, H314,  
H317, H330, H334, H335,  
H351  
≤ 100 %

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## **SECTION 4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim

immediately to hospital. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### **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.

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

No data available

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

No data available

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

Wear respiratory protection. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel

to safe areas.

For personal protection see section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

#### 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

Avoid contact with skin and eyes. Avoid inhalation of Vapor or mist.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully

resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C

Light sensitive. Moisture sensitive.

Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

#### 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

Components with workplace control parameters

Component CAS-No. Value Control parameters

Basis

Methyl iodide 74-88-4 TWA 2.000000 ppm

USA. ACGIH Threshold Limit Values (TLV)

Remarks Central Nervous System impairment

Eye damage

Danger of cutaneous absorption

TWA 2 ppm

USA. ACGIH Threshold Limit Values (TLV)

Central Nervous System impairment

Eye damage

Danger of cutaneous absorption

TWA 5.000000 ppm

28.000000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air

Contaminants

Skin designation

The value in mg/m<sup>3</sup> is approximate.

TWA 2.000000 ppm

10.000000

mg/m<sup>3</sup>

USA. NIOSH Recommended

Exposure Limits

Potential Occupational Carcinogen

See Appendix A

Potential for dermal absorption

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and

approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: > 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: > 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the

supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an

industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It

should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to

the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose

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

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting point/freezing point

Melting point/range: -64 °C (-83 °F) - lit.

f) Initial boiling point and boiling range

41 - 43 °C (106 - 109 °F) - lit.

g) Flash point No data available

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower

flammability or

explosive limits

Upper explosion limit: 66 %(V)

Lower explosion limit: 8.5 %(V)

k) Vapor pressure 544 hPa (408 mmHg) at 20 °C (68 °F)

1,660 hPa (1,245 mmHg) at 55 °C (131 °F)

l) Vapor density 4.90 - (Air = 1.0)

m) Relative density 2.28 g/cm<sup>3</sup> at 25 °C (77 °F)

n) Water solubility 14 g/l at 20 °C (68 °F)

o) Partition coefficient: noctanol/  
water

log Pow: 1.5 at 20 °C (68 °F)

p) Auto-ignition

temperature

No data available

q) Decomposition

temperature

No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

### 9.2 Other safety information

Relative Vapor density 4.90 - (Air = 1.0)

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## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s):

Copper (100 ppm)

## 10.3 Possibility of hazardous reactions

No data available

## 10.4 Conditions to avoid

No data available

## 10.5 Incompatible materials

Strong oxidizing agents, Strong bases, Oxygen

## 10.6 Hazardous decomposition products

Other decomposition products - No data available

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 - 76 mg/kg

LC50 Inhalation - Rat - 4 h - 1,300 mg/m<sup>3</sup>

LD50 Dermal - Guinea pig - 800 mg/kg

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes severe burns.

(Draize Test)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Risk of serious damage to eyes.

(Draize Test)

Respiratory or skin sensitisation

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH,

NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Methyl iodide)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

Nausea, Dizziness, Headache, Blurred vision, Weakness, Drowsiness, Ataxia., Confusion.,  
Convulsions, narcosis,

Pulmonary edema. Effects may be delayed., Symptoms of systemic copper poisoning may include:  
capillary damage,

headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation  
followed by

depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure.

Chronic copper

poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper  
deposition in the

cornea as exemplified by humans with Wilson's disease. It has also been reported that copper  
poisoning has lead to

hemolytic anemia and accelerates arteriosclerosis.

Nausea, Dizziness, Headache, Blurred vision, Weakness, Drowsiness, Ataxia., Confusion.,  
Convulsions, narcosis,

Pulmonary edema. Effects may be delayed.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 16 % - Not readily biodegradable.

(Closed Bottle test)

### 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 Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed  
professional waste

disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent  
and burn in a

chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.



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## SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 2644 Class: 6.1 Packing group: I

Proper shipping name: Methyl iodide

Reportable Quantity (RQ): 100 lbs

Poison Inhalation Hazard: Hazard zone B

IMDG

UN number: 2644 Class: 6.1 Packing group: I EMS-No: F-A, S-A

Proper shipping name: METHYL IODIDE

IATA

UN number: 2644 Class: 6.1

Proper shipping name: Methyl iodide

IATA Passenger: Not permitted for transport

IATA Cargo: Not permitted for transport

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## SECTION 15. REGULATORY INFORMATION

SARA 302 Components

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

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Methyl iodide

CAS-No.

74-88-4

Revision Date

2007-07-01

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Methyl iodide

CAS-No.

74-88-4

Revision Date

2007-07-01

Pennsylvania Right To Know Components

Methyl iodide

CAS-No.

74-88-4

Revision Date

2007-07-01

Copper 7440-50-8 1989-08-11

New Jersey Right To Know Components

Methyl iodide

CAS-No.

74-88-4

Revision Date

2007-07-01

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Methyl iodide  
CAS-No.  
74-88-4  
Revision Date  
2007-09-28

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.