SECTION 1: Identification of the hazardous chemical and of the supplier

1.1 Product identifiers
Product name: 2-Iodoacetamide for synthesis

Product Number: 8.04744
Catalogue No.: 804744
Brand: Millipore
CAS-No.: 144-48-9

1.2 Other means of identification
No data available

1.3 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Chemical for synthesis

1.4 Details of the supplier of the safety data sheet
Co. No: 178145
No. 4, Jalan U1/26, Section U1,
40150 HICOM GLENMARIE INDUSTRIAL PARK,SHAH ALA
MALAYSIA

Telephone: +60 (0)3-74943688
Fax: +60 (0)3-74910850

1.5 Emergency telephone
Emergency Phone #: 1-800-815-308 (CHEMTREC) * + 62 0800
140 1253 (Customer Call Centre)

Section 2: Hazard identification

2.1 GHS Classification
Classification according to CLASS regulations 2013
Acute toxicity, Oral (Category 3), H301
Respiratory sensitization (Category 1), H334
Skin sensitization (Category 1), H317
Hazardous to the aquatic environment - chronic hazard (Category 4), H413

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

2.2 GHS Label elements, including precautionary statements
Labelling according to CLASS regulations 2013
Pictogram

Signal Word: Danger
Hazard statement(s)
H301   Toxic if swallowed.
H317   May cause an allergic skin reaction.
H334   May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H413   May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)
Prevention
P261   Avoid breathing dust.
P280   Wear protective gloves.
P285   In case of inadequate ventilation wear respiratory protection.

Response
P301 + P310 + P330  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
P304 + P341  IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P342 + P311  If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Reduced Labeling (<= 125 ml)
Pictogram

Signal Word  Danger
Hazard statement(s)  none
Precautionary statement(s)  none
Refer to the Safety Data Sheet before use.

2.3 Other hazards - none

SECTION 3: Composition and information of the ingredients of the hazardous chemical
Substance / Mixture : Substance

3.1 Substances
Formula : C2H4INO
Molecular weight : 184.96 g/mol
CAS-No. : 144-48-9
EC-No. : 205-630-1

Hazardous ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Iodoacetamide</td>
<td>Acute Tox. 3; Resp. Sens. 1; Skin Sens. 1; Aquatic Chronic 4; H301, H334, H317, H413</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. 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. Remove contact lenses.

If swallowed
If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water Foam Carbon dioxide (CO2) Dry powder

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

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Hydrogen iodide
Combustible.
Fire may cause evolution of:
nitrogen oxides, hydrogen iodide
Development of hazardous combustion gases or vapours possible in the event of fire.

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
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

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. 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.

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. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Work under hood. Do not inhale substance/mixture.

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
Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.
Recommended storage temperature see product label.

Storage class
Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls and personal protection

8.1 Control parameters
Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

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
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Body Protection
protective clothing

Respiratory protection
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state powder, finecrystalline
b) Color yellow
c) Odor No data available
d) Melting point/freezing point Melting point: 94.5 °C
e) Initial boiling point and boiling range No data available
f) Flammability (solid, gas) No data available
9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

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

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Strong oxidizing agents

10.4 Conditions to avoid
Exposure to light may affect product quality.
No information available

10.5 Incompatible materials
No data available

s) Explosive properties No data available

 t) Oxidizing properties none
10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Mouse - 74 mg/kg
Remarks: (RTECS)
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitization**
May cause allergic respiratory and skin reactions

**Germ cell mutagenicity**
Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: (Lit.)

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

11.2 Additional Information

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:
We have no description of any toxic symptoms.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.
SECTION 12: Ecological information

12.1 Toxicity  
No data available

12.2 Persistence and degradability  
No data available

12.3 Bioaccumulative potential  
Indication of bioaccumulation.

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

SECTION 13: Disposal information

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. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions. According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

SECTION 14: Transportation information

14.1 UN number  
ADR/RID: 2811  
IMDG: 2811  
IATA-DGR: 2811

14.2 UN proper shipping name  
ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (2-Iodoacetamide)  
IMDG: TOXIC SOLID, ORGANIC, N.O.S. (2-Iodoacetamide)  
IATA-DGR: Toxic solid, organic, n.o.s. (2-Iodoacetamide)

14.3 Transport hazard class(es)  
ADR/RID: 6.1  
IMDG: 6.1  
IATA-DGR: 6.1

14.4 Packaging group  
ADR/RID: III  
IMDG: III  
IATA-DGR: III

14.5 Environmental hazards  
ADR/RID: no  
IMDG Marine pollutant: no  
IATA-DGR: no
14.6 Special precautions for user
None

14.7 Incompatible materials

Other regulations
Hazchem Code : 2X

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SECTION 16: Other information

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

H301  Toxic if swallowed.
H317  May cause an allergic skin reaction.
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H413  May cause long lasting harmful effects to aquatic life.

Further information
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. 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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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