1.1 Product identifiers

Product name: 2-Iodoacetamide for synthesis

Product Number: 8.04744
Catalogue No.: 804744
Brand: Millipore
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.: 144-48-9

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

Identified uses: Chemical for synthesis

1.3 Details of the supplier of the safety data sheet

Company: Merck KGaA
Frankfurter Str. 250
D-64271 DARMSTADT

Telephone: +49 (0)6151 72-0
Fax: +49 6151 727780
E-mail address: TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone #: +(44)-870-8200418 (CHEMTREC (GB))
+353)-19014670 (CHEMTREC Ireland)
001-803-017-9114 (CHEMTREC India)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 3), H301
Respiratory sensitization (Category 1), H334
Skin sensitization (Category 1), H317
Long-term (chronic) aquatic hazard (Category 4), H413

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

Labelling according Regulation (EC) No 1272/2008

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)
P261  Avoid breathing dust.
P264  Wash skin thoroughly after handling.
P273  Avoid release to the environment.
P280  Wear protective gloves.
P301 + P310  IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302 + P352  IF ON SKIN: Wash with plenty of water.

Supplemental Hazard Statements
none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word  Danger

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

Precautionary statement(s)
P261  Avoid breathing dust.
P264  Wash skin thoroughly after handling.
P280  Wear protective gloves.
P301 + P310  IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302 + P352  IF ON SKIN: Wash with plenty of water.

Supplemental Hazard Statements
none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
The life science business of Merck operates as MilliporeSigma in the US and Canada.

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

<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>

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
</tr>
</thead>
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<tr>
<td>144-48-9</td>
<td>205-630-1</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/personal protection

8.1 **Control parameters**

**Ingredients with workplace control parameters**

8.2 **Exposure controls**

**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.

- **Recommended Filter type:** Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**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
g) Upper/lower flammability or explosive limits  No data available
h) Flash point  No data available
i) Autoignition temperature  No data available
j) Decomposition temperature  No data available
k) pH  No data available
l) Viscosity  Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
m) Water solubility  No data available
n) Partition coefficient: n-octanol/water  log Pow: 0,04 - Bioaccumulation is not expected.
o) Vapor pressure  No data available
p) Density  No data available
Relative density  No data available
q) Relative vapor density  No data available
r) Particle characteristics  No data available
s) Explosive properties  No data available
t) Oxidizing properties  none

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

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
Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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.
12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2811  
IMDG: 2811  
IATA: 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: Toxic solid, organic, n.o.s. (2-Iodoacetamide)

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

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

14.5 Environmental hazards
ADR/RID: no  
IMDG Marine pollutant: no  
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

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.

Relevant changes since previous version
2. Hazards identification

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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