# SAFETY DATA SHEET

**Creation Date** 24-November-2010 **Revision Date** 29-March-2024 **Revision Number** 4

## 1. Identification

**Product Name** **Acrylamide**

**Cat No. :** **J75820**

**CAS-No** 79-06-1
**Synonyms** 2-Propenamide; Ethylenecarboxamide

**Recommended Use** Laboratory chemicals.
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**
**Importer/Distributor**
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

**Emergency Telephone Number**
For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

## 2. Hazard(s) identification

**Classification**

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|---|
| **Acute oral toxicity** | Category 3 |
| **Acute dermal toxicity** | Category 4 |
| **Acute Inhalation Toxicity** | Category 4 |
| **Skin Corrosion/Irritation** | Category 2 |
| **Serious Eye Damage/Eye Irritation** | Category 2 |
| **Skin Sensitization** | Category 1 |
| **Germ Cell Mutagenicity** | Category 1B |
| **Carcinogenicity** | Category 1B |
| **Reproductive Toxicity** | Category 2 |
| **Specific target organ toxicity - (repeated exposure)** | Category 1 |
| Target Organs - Liver, Kidney, Blood. | |
| **Physical Hazards Not Otherwise Classified** | Category 1 |
| Hazardous polymerization may occur | |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
Toxic if swallowed
Harmful in contact with skin or if inhaled
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause genetic defects
May cause cancer
Suspected of damaging fertility
Causes damage to organs through prolonged or repeated exposure
Hazardous polymerization may occur

**Precautionary Statements**
**Prevention**
Keep cool. Protect from sunlight
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection
**Response**
IF SWALLOWED: Immediately call a POISON CENTER/doctor
IF ON SKIN: Wash with plenty of soap and water
IF exposed or concerned: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Rinse mouth
Call a POISON CENTER/ doctor if you feel unwell
Take off contaminated clothing and wash it before reuse
**Storage**
Store locked up
**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other Hazards**
Light sensitive

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Acrylamide | 79-06-1 | >95 |

## 4. First-aid measures

**General Advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms/effects** May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 138 °C / 280.4 °F

**Method -** No information available

**Autoignition Temperature** 424 °C / 795.2 °F

**Explosion Limits**

| | |
|---|---|
| **Upper** | No data available |
| **Lower** | No data available |
| **Sensitivity to Mechanical Impact** | No information available |
| **Sensitivity to Static Discharge** | No information available |

**Specific Hazards Arising from the Chemical**
Decomposes violently at elevated temperatures. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**
Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide ($CO_2$). Ammonia. Hydrogen.
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 3 | 2 | 2 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe

areas.

**Environmental Precautions** Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

**Storage.** Keep in a dry place. Keep container tightly closed. Protect from direct sunlight. Store under an inert atmosphere. Keep refrigerated. Keep container tightly closed in a dry and well-ventilated place. Protect from moisture. Incompatible Materials. Acids. Bases. Strong oxidizing agents. Metals. copper. Reducing Agent.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH |
|---|---|---|---|---|---|---|---|
| Acrylamide | TWA: 0.03 mg/m³ Skin | TWA: 0.03 mg/m³ Skin | TWA: 0.03 mg/m³ Skin | TWA: 0.03 mg/m³ Skin | TWA: 0.03 mg/m³ Skin | (Vacated) TWA: 0.03 mg/m³ Skin TWA: 0.3 mg/m³ | IDLH: 60 mg/m³ TWA: 0.03 mg/m³ |

**Legend**

*ACGIH - American Conference of Governmental Industrial Hygienists*
*OSHA - Occupational Safety and Health Administration*
*NIOSH: NIOSH - National Institute for Occupational Safety and Health*

**Engineering Measures** Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles
**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|---|---|---|
| Natural rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers recommendations | - | Splash protection only |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**
Prevent product from entering drains.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Solid |
| **Appearance** | White |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | 6.5-8.0 50% in water |
| **Melting Point/Range** | 82 - 86 °C / 179.6 - 186.8 °F |
| **Boiling Point/Range** | 125 °C / 257 °F @ 25 mmHg |
| **Flash Point** | 138 °C / 280.4 °F |
| **Evaporation Rate** | Not applicable |
| **Flammability (solid,gas)** | No information available |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | 5.3 hPa @ 100 °C |
| **Vapor Density** | Not applicable |
| **Specific Gravity** | 1.122 @ 30°C |
| **Solubility** | Soluble in water |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | 424 °C / 795.2 °F |
| **Decomposition Temperature** | 175 °C |
| **Viscosity** | Not applicable |
| **Molecular Formula** | C3 H5 N O |
| **Molecular Weight** | 71.08 |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactive Hazard** | Yes |
| **Stability** | Stable under normal conditions. Hazardous polymerization may occur. Hygroscopic. heat sensitive. Air sensitive. Light sensitive. Decomposes on exposure to light. |
| **Conditions to Avoid** | Temperatures above 84°C. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Exposure to light. Incompatible products. Exposure to moist air or water. |
| **Incompatible Materials** | Acids, Bases, Strong oxidizing agents, Metals, copper, Reducing Agent |
| **Hazardous Decomposition Products** | Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide ($CO_2$), Ammonia, Hydrogen |
| **Hazardous Polymerization** | Hazardous polymerization may occur. |
| **Hazardous Reactions** | None under normal processing. |

## 11. Toxicological information

**Acute Toxicity**

**Product Information**
**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Acrylamide | 124 mg/kg ( Rat ) | 1141 mg/kg ( Rabbit) | Not listed |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Irritating to eyes and skin

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Acrylamide | 79-06-1 | Group 2A | Reasonably Anticipated | A2 | X | A3 |

*IARC (International Agency for Research on Cancer)*
*IARC (International Agency for Research on Cancer)*
*Group 1 - Carcinogenic to Humans*
*Group 2A - Probably Carcinogenic to Humans*
*Group 2B - Possibly Carcinogenic to Humans*

*NTP: (National Toxicity Program)*
*NTP: (National Toxicity Program)*
*Known - Known Carcinogen*
*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*
*A1 - Known Human Carcinogen*
*A2 - Suspected Human Carcinogen*
*A3 - Animal Carcinogen*
*ACGIH: (American Conference of Governmental Industrial Hygienists)*

*Mexico - Occupational Exposure Limits - Carcinogens*
*Mexico - Occupational Exposure Limits - Carcinogens*
*A1 - Confirmed Human Carcinogen*
*A2 - Suspected Human Carcinogen*
*A3 - Confirmed Animal Carcinogen*
*A4 - Not Classifiable as a Human Carcinogen*
*A5 - Not Suspected as a Human Carcinogen*

**Mutagenic Effects** Mutagenic

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known
**STOT - repeated exposure** Liver Kidney Blood

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** Neurotoxic effects have occurred in humans.

## 12. Ecological information

**Ecotoxicity**
Do not empty into drains. Contains a substance which is:. Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Acrylamide | Not listed | 124 mg/L LC50 96 h<br>74-150 mg/L LC50 96 h<br>81-150 mg/L LC50 96 h<br>103-115 mg/L LC50 96 h<br>137-191 mg/L LC50 96 h | Not listed | EC50: = 98 mg/L, 48h Flow through (Daphnia magna)<br>EC50: = 98 mg/L, 48h (Daphnia magna) |

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|---|---|
| Acrylamide | -1.24 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|---|---|---|
| Acrylamide - 79-06-1 | U007 | - |

## 14. Transport information

**DOT**

**UN-No** UN2074
**Proper Shipping Name** ACRYLAMIDE, SOLID
**Hazard Class** 6.1
**Packing Group** III

**TDG**

**UN-No** UN2074
**Proper Shipping Name** ACRYLAMIDE, SOLID
**Hazard Class** 6.1
**Packing Group** III

**IATA**

**UN-No** UN2074
**Proper Shipping Name** ACRYLAMIDE, SOLID
**Hazard Class** 6.1
**Packing Group** III

**IMDG/IMO**

**UN-No** UN2074
**Proper Shipping Name** ACRYLAMIDE, SOLID
**Hazard Class** 6.1
**Packing Group** III

## 15. Regulatory information

**International Inventories**

| Component | CAS-No | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|---|---|---|---|---|---|---|---|---|
| Acrylamide | 79-06-1 | X | - | X | ACTIVE | 201-173-7 | - | - |

| Component | CAS-No | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|---|---|---|---|---|---|---|---|---|---|
| Acrylamide | 79-06-1 | X | KE-29374 | X | X | X | X | X | X |

**Legend:**
X - Listed '-' - Not Listed
**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**ENCS** - Japanese Existing and New Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|---|---|---|---|
| Acrylamide | Part 1, Group A Substance Part 4 Substance | Schedule I | Subject to Monitoring and Surveillance Activities |

**Legend** NPRI - National Pollutant Release Inventory

### Other International Regulations

### Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|
| Acrylamide | - | Use restricted. See item 28. (see link for restriction details) Use restricted. See item 29. (see link for restriction details) Use restricted. See item 60. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) | SVHC Candidate list - 201-173-7 - Carcinogenic, Article 57a;Mutagenic, Article 57b |

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

**REACH links**
*https://echa.europa.eu/authorisation-list*
*https://echa.europa.eu/substances-restricted-under-reach*
*https://echa.europa.eu/candidate-list-table*

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

| Component | CAS-No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|---|---|---|---|---|
| Acrylamide | 79-06-1 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|---|
| Acrylamide | 79-06-1 | Not applicable | Not applicable | Not applicable | Not applicable |

## 16. Other information

**Prepared By** Product Safety Department

Email: chem.techinfo@thermofisher.com
www.thermofisher.com

| | |
|---|---|
| **Creation Date** | 24-November-2010 |
| **Revision Date** | 29-March-2024 |
| **Print Date** | 29-March-2024 |
| **Revision Summary** | New emergency telephone response service provider. |

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

## End of SDS