

SAFETY DATA SHEET

Creation Date 24-Nov-2010

Revision Date 29-Mar-2024

Revision Number 4

1. Identification

Product Name Acrylamide

Cat No. : L05160

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

Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

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

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	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.	

Label Elements

Signal Word

Danger

Hazard Statements

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

**Precautionary Statements****Prevention**

Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
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
Wear protective gloves/protective clothing/eye protection/face protection

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Take off contaminated clothing and wash before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

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 and 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 (CO ₂), 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 (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂). 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
3

Flammability
2

Instability
2

Physical hazards
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	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Acrylamide	TWA: 0.03 mg/m ³ Skin	(Vacated) TWA: 0.03 mg/m ³ Skin TWA: 0.3 mg/m ³	IDLH: 60 mg/m ³ TWA: 0.03 mg/m ³	STEL: 0.03 mg/m ³

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.
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Personal Protective Equipment

Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	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.
Recommended Filter type:	Particulates filter conforming to EN 143.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

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	A2	X	A3

		Anticipated	
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 74-150 mg/L LC50 96 h 81-150 mg/L LC50 96 h 103-115 mg/L LC50 96 h 137-191 mg/L LC50 96 h	Not listed	EC50: = 98 mg/L, 48h Flow through (Daphnia magna) 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
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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

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Acrylamide	79-06-1	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Acrylamide	79-06-1	X	-	201-173-7	X	X	X	X	X	KE-29374

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Acrylamide	79-06-1	>95	0.1 %	-

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acrylamide	X		-

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Acrylamide	5000 lb	5000 lb	5000 lb 2270 kg

California Proposition 65 This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Acrylamide	79-06-1	Carcinogen Developmental Male Reproductive	0.2 µg/day	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acrylamide	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	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	79-06-1	-	Use restricted. See item	SVHC Candidate list -

			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)	201-173-7 - Carcinogenic, Article 57a; Mutagenic, Article 57b
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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

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

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

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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