SAFETY DATA SHEET

Creation Date 24-Nov-2010 **Revision Date** 17-Jan-2018 **Revision Number** 3

1. Identification

Product Name **Acrylamide (Certified)**

Cat No. : **O1065-500**

Synonyms 2-Propenamide; Ethylenecarboxamide

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 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 2
Target Organs - Liver, Kidney, Blood.	

Label Elements

Signal Word
Danger

Hazard Statements
Toxic if swallowed
Harmful in contact with skin
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation

May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Suspected of damaging fertility
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
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
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
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 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
If skin irritation or rash occurs: Get medical advice/attention
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
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Hazardous polymerization may occur
WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Acrylamide	79-06-1	98.5-99.8

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. 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. Call a physician or Poison Control Center immediately. If not breathing, give artificial respiration.
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	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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.

NFPA

Health	Flammability	Instability	Physical hazards
2	2	2	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Wear self-contained breathing apparatus and protective suit. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Avoid dust formation. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Avoid release to 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	Wear self-contained breathing apparatus and protective suit. Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition.

Storage Keep in a dry place. Keep container tightly closed. Keep away from direct sunlight. Store under an inert atmosphere. Keep refrigerated.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acrylamide	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	TWA: 0.03 mg/m³ STEL: 0.06 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or 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.

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.

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	No information available
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 agents

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	A3	X	A3

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 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	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL

Acrylamide	X	X	-	201-173-7	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Acrylamide	79-06-1	98.5-99.8	0.1

SARA 311/312 Hazard Categories See section 2 for more information

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)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acrylamide	5000 lb	5000 lb

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): N
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

16. Other information

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Email: EMSDS.RA@thermofisher.com

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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