ALFAAL15075

Acrylamide, electrophoresis grade

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明:	**丙烯酰胺**
Product Description:	**Acrylamide, electrophoresis grade**
Cat No. :	**L15075**
Synonyms	2-Propenamide; Ethylenecarboxamide
CAS No	79-06-1
Molecular Formula	C3 H5 N O
Supplier	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
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
E-mail address	begel.sdsdesk@thermofisher.com
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State	**Appearance**	**Odor**
Solid	White	Odorless

Emergency Overview

Causes skin irritation. Toxic if swallowed. Causes serious eye irritation. May cause genetic defects. May cause an allergic skin reaction. May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful in contact with skin. Harmful if inhaled. Hygroscopic. Sensitivity to light. Air sensitive.

Classification of the substance or mixture

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

Label Elements

Signal Word **Danger**

Hazard Statements
H315 - Causes skin irritation
H301 - Toxic if swallowed
H319 - Causes serious eye irritation
H340 - May cause genetic defects
H317 - May cause an allergic skin reaction
H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H312 + H332 - Harmful in contact with skin or if inhaled
H361 - Suspected of damaging fertility or the unborn child

Precautionary Statements
Prevention
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
Response
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth
P362 + P364 - Take off contaminated clothing and wash it before reuse
Storage
P405 - Store locked up
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
Hygroscopic.
Health Hazards
Causes skin irritation. Toxic if swallowed. Causes serious eye irritation. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful if inhaled. Harmful in contact with skin.
Environmental hazards
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. . Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 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

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

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

Extinguishing media which must not be used for safety reasons
Carbon dioxide (CO_2).

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.

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.

SECTION 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.

Refer to protective measures listed in Sections 8 and 13.

SECTION 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. Air sensitive.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	China	ACGIH TLV	OSHA PEL	NIOSH
Acrylamide	TWA: 0.3 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 REL = 0.03 mg/m³ (TWA)

Component	Hong Kong	Thailand	European Union	The United Kingdom
Acrylamide	-	TWA: 0.3 mg/m³	TWA: 0.1 mg/m³ (8h) Skin	STEL: 0.3 mg/m³ 15 min TWA: 0.1 mg/m³ 8 hr Carc. Skin

Legend

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

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls

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 (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene	See manufacturers recommendations		EN 374	(minimum requirement)

PVC	-

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure 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.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White	
Physical State	Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	6.5-8.0	50% in water
Melting Point/Range	82 - 86 °C / 179.6 - 186.8 °F	
Softening Point	No data available	
Boiling Point/Range	125 °C / 257 °F	@ 25 mmHg
Flash Point	138 °C / 280.4 °F	**Method -** No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	5.3 hPa @ 100 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	1.122 @ 30°C	
Bulk Density	No data available	
Water Solubility	2040 g/L (25°C)	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Acrylamide	-1.24

Autoignition Temperature	424 °C / 795.2 °F	
Decomposition Temperature	175 °C	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Molecular Formula C3 H5 N O
Molecular Weight 71.08

SECTION 10. STABILITY AND REACTIVITY

Stability Stable under normal conditions. Hazardous polymerization may occur. Hygroscopic. heat sensitive. Air sensitive. Light sensitive. Decomposes on exposure to light.

Hazardous Reactions None under normal processing.
Hazardous Polymerization Hazardous polymerization may occur.

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.

Materials to avoid Acids. Bases. Strong oxidizing agents. Metals. copper. Reducing Agent.

Hazardous Decomposition Products Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO_2). Ammonia. Hydrogen.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acrylamide	124 mg/kg (Rat)	1141 mg/kg (Rabbit)	

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Category 1

No information available

(e) germ cell mutagenicity; Category 1B

Mutagenic

(f) carcinogenicity; Category 1B

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

Component	EU	UK	Germany	IARC
Acrylamide	Carc Cat. 1B		Cat. 2	Group 2A

(g) reproductive toxicity; Category 2
Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Category 1

Target Organs Eyes, Skin, Central nervous system (CNS), Reproductive System.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects Neurotoxic effects have occurred in humans.

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects 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 Fish	Water Flea	Freshwater Algae	Microtox
Acrylamide	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	EC50: = 98 mg/L, 48h Flow through (Daphnia magna) EC50: = 98 mg/L, 48h (Daphnia magna)		

Persistence and Degradability Readily biodegradable
Persistence Persistence is unlikely.
Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Acrylamide	-1.24	No data available

Mobility in soil The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

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

IATA

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

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Acrylamide	X	X	X	201-173-7	X	X	X	X	X	X	KE-29374

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By	Health, Safety and Environmental Department
Creation Date	24-Nov-2010
Revision Date	27-Jul-2026
Revision Summary	Not applicable.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
DNEL - Derived No Effect Level
PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
NOEC - No Observed Effect Concentration
POW - Partition coefficient Octanol:Water
PBT - Persistent, Bioaccumulative, Toxic
vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organisation for Economic Co-operation and Development
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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 Safety Data Sheet