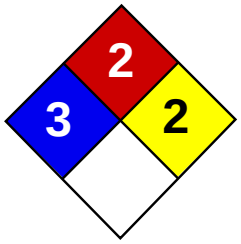

Health	2
Fire	1
Reactivity	2
Personal Protection	E

Material Safety Data Sheet
Acrylamide MSDS

Section 1: Chemical Product and Company Identification

Product Name: Acrylamide

Catalog Codes: SLA4612

CAS#: 79-06-1

RTECS: AS3325000

TSCA: TSCA 8(b) inventory: Acrylamide

CI#: Not applicable.

Synonym: 2-Propenamide

Chemical Name: 2-Propenamide

Chemical Formula: H2C=CHCONH2 or C3-H5-N-O

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Acrylamide	79-06-1	100

Toxicological Data on Ingredients: Acrylamide: ORAL (LD50): Acute: 124 mg/kg [Rat.]. 107 mg/kg [Mouse]. 150 mg/kg [Rabbit]. DERMAL (LD50): Acute: 400 mg/kg [Rat]. 1680 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (permeator), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant). Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified + (Proven.) by OSHA+ (Proven.) by NIOSH. Classified A3 (Proven for animal.) by ACGIH. Classified 2A (Probable for human.) by IARC, 2 (Some evidence.) by NTP, 2 (Suspected for human.) by European Union. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/male [POSSIBLE]. The substance may be toxic to peripheral nervous system, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 424°C (795.2°F)

Flash Points: CLOSED CUP: 138°C (280.4°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and fumes.

Special Remarks on Explosion Hazards: Material in powder form, capable of creating a dust explosion.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.

Storage:
Light Sensitive. Store in light-resistant containers. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F). Perferably store in a refrigerator.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.03 (mg/m3) [Australia] Inhalation TWA: 0.3 (mg/m3) from OSHA (PEL) [United States] Inhalation TWA: 0.03 (mg/m3) from NIOSH Inhalation TWA: 0.03 (mg/m3) from NIOSH SKIN TWA: 0.3 (mg/m3) [United Kingdom (UK)] Inhalation TWA: 0.03 (mg/m3) from ACGIH (TLV) [United States] [1999] InhalationConsult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystalline solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 71.08 g/mole

Color: White.

pH (1% soln/water): Not available.

Boiling Point: 125°C (257°F)

Melting Point: 84.5°C (184.1°F)

Critical Temperature: Not available.

Specific Gravity: 1.122 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 2.45 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in water; log(oil/water) = -0.7

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, acetone.

Solubility:
Soluble in cold water, hot water, methanol. Partially soluble in acetone.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, dust generation, incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents, acids, alkalis, moisture.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Light Sensitive. May polymerize on exposure to light. The solid is stable at room temperature but may polymerize violently on melting or when heated above 50 C. Reacts spontaneously with hydroxyl-, amino-, and sulfhydryl- containing compounds. Reacts vigorously with acids, bases producing ammonia salts and acrylic acid. Spontaneous polymerization does not readily occur, but requires the presence of dimethylaminopropionitrile (DMAPN) catalyst and ammonium persulfate. Also, Acrylamide may polymerize upon contact with oxidizing materials e.g. peroxides..

Special Remarks on Corrosivity: Not available.

Polymerization:
Yes. posure to light. The solid is stable at room temperature but may polymerize violently on melting or when heated above 50 C.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals:
Acute oral toxicity (LD50): 107 mg/kg [Mouse]. Acute dermal toxicity (LD50): 400 mg/kg [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified + (Proven.) by OSHA+ (Proven.) by NIOSH. Classified A3 (Proven for animal.) by ACGIH. Classified 2A (Probable for human.) by IARC, 2 (Some evidence.) by NTP, 2 (Suspected for human.) by European Union. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/male [POSSIBLE]. May cause damage to the following organs: kidneys, peripheral nervous system, central nervous system (CNS).

Other Toxic Effects on Humans:
Hazardous in case of skin contact (permeator), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Crosses placental barrier, occurs in breast milk. Accumlates temporarily, but most is broken down within a day. May affect genetic material. May also have tumorigenic effects based on animal studies. May cause adverse reproductive effects (fetotoxicity and male fertility) and birth defects (teratogenic).

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes skin irritation and dermatitis. May be absorbed through unbroken skin and affect blood, behavior/central nervous system, and peripheral nervous system (variable polyneuropathy with motor and sensory impairment). Symptoms may include numbness, paresthesias, ataxia, tremor, dysarthria and other symptoms similar to

ingestion. Apsorption of acrylamide through skin may also affect the gastrointestinal tract and cause nausea and vomiting. Eyes: Causes eye irritation. Inhalation: May cause irritation of the respiratory tract and mucous membranes. Ingestion: May cause irritation of the digestive (gastrointestinal) tract including nausea and vomiting. May affect the spinal cord, behavior/ Central and Peripheral nervous systems. Symptoms may include change in motor activity, weakness, flaccid paralysis, ataxia, irritability, drowsiness, somnolence, disturbances of balance, tremors, convulsions, spasticity, disorientation, confusion, memory loss, and hallucinations. May also affect metabolism (anorexia), blood (thrombocytopenia), liver (mild hepatotoxicity), kidneys (urinary rentenion, renal toxicity), and cardiovascular system. Chronic Potential Health Effects: Prolonged or repeated exposure through skin absorption and ingestion may produce symptoms similar to acute exposure as well as affecting the brain (degenerative changes in nerve fibers) and spinal cord (degenerative changes in nerve fibers and demyelination).

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Acrylamide UNNA: 2074 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Acrylamide California prop. 65 (no significant risk level): Acrylamide California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Acrylamide New York release reporting list: Acrylamide Rhode Island RTK hazardous substances: Acrylamide Pennsylvania RTK: Acrylamide Florida: Acrylamide Massachusetts RTK: Acrylamide New Jersey: Acrylamide California Director's List of Hazardous Substances (8CCR 339): Acrylamide Tennessee: Acrylamide TSCA 8(b) inventory: Acrylamide TSCA 8(d) H and S data reporting: Acrylamide: 10/4/82; Sunset Date: 10/4/92 TSCA 12(b) annual export notification: Acrylamide SARA 302/304/311/312 extremely hazardous substances: Acrylamide SARA 313 toxic chemical notification and release reporting: Acrylamide CERCLA: Hazardous substances.: Acrylamide: 5000 lbs. (2268 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R24/25- Toxic in contact with skin and if swallowed. R36/38- Irritating to eyes and skin. R45- May cause cancer. R62- Possible risk of impaired fertility. S1/2- Keep locked up and out of the reach of children. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label. S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 2

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 2

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References:
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -Liste des produits purs tÃ©ratogÃ¨nes, mutagÃ¨nes, cancÃ©rogÃ¨nes. RÃ©pertoire toxicologique de la Commission de la SantÃ© et de la SÃ©curitÃ© du Travail du QuÃ©bec. -Material safety data sheet emitted by: la Commission de la SantÃ© et de la SÃ©curitÃ© du Travail du QuÃ©bec. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du rÃ¨glement sur le transport des marchandises dangeureuses au canada. Centre de conformitÃ© internatinal LtÃ©e. 1986.

Other Special Considerations: Not available.

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