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Material Safety Data Sheet Butyl Acrylate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Butyl Acrylate

Catalog Codes: SLB1666

CAS#: 141-32-2

RTECS: UD3150000

TSCA: TSCA 8(b) inventory: Butyl Acrylate

CI#: Not available.

Synonym: Acrylic acid n-butyl ester; Acrylic acid, butyl ester; Butyl-2-propenoate; n-Butyl acrylate

Chemical Name: 2-Propenoic acid, butyl ester

Chemical Formula: C7-H12-O2

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Butyl Acrylate	141-32-2	100

Toxicological Data on Ingredients: Butyl Acrylate: ORAL (LD50): Acute: 900 mg/kg [Rat]. 5880 mg/kg [Mouse]. DERMAL (LD50): Acute: 1780 mg/kg [Rabbit]. VAPOR (LC50): Acute: 2730 ppm 4 hours [Rat]. 7800 mg/m 2 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (permeator), of eye contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, liver, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage.

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. WARM water MUST 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. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

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. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 279 C (534 F) - 292°C (557.6°F)

Flash Points: CLOSED CUP: 29°C (84.2°F) - 39 C(102.2 F). OPEN CUP: 47.778°C (118°F).

Flammable Limits: LOWER: 1.3% -1.7% UPPER: 9.4% - 9.9%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Vapor may travel considerable distance to source of ignition and flash back.

Special Remarks on Explosion Hazards: Vapors may form explosive mixtures with air.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Keep away from direct sunlight or strong incandescent light. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid shock and friction. 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.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Sensitive to light. Store in light-resistant containers.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor 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: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Fruity. Sharp, fragrant (Strong.)

Taste: Not available.

Molecular Weight: 128.17 g/mole

Color: Clear Colorless.

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

Boiling Point: 145°C (293°F)

Melting Point: -64.6 (-84.3°F)

Critical Temperature: 321°C (609.8°F)

Specific Gravity: 0.8898 (Water = 1)

Vapor Pressure: 0.5 kPa (@ 20°C)

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in oil; $\log(\text{oil/water}) = 2.4$

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Soluble in diethyl ether, acetone. Very slightly soluble in cold water. Practically insoluble in water. Solubility in Water: 0.14 g/100 ml water @ 20 deg. C.; 0.12 g/100 ml water @ 40 deg. C; 2,000 mg/l water @ 23 deg. C

Section 10: Stability and Reactivity Data

Stability:

The product is stable since it is stabilized or inhibited with Hydroquinone monomethyl ether (MEHQ). However, it may undergo explosive polymerization if uninhibited. It may polymerize on exposure to light. Polymerization may occur upon heating. It is stable only if stored and handled under recommended conditions. The stability of the product depends upon the availability of both dissolved oxygen and MEHQ inhibitor. The presence of oxygen is necessary for the MEHQ to function effectively. The product should never be stored under an inert gas atmosphere, but it should always be stored under an atmosphere containing 5-21% oxygen by volume. Also, temperatures must be kept low to minimize formation of peroxides and other products. This material is a monomer and may polymerize under certain conditions if the stabilizer/inhibitor is lost. Again, hazardous polymerization may be caused elevated temperature, oxidizers, peroxides, or sunlight.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials, light.

Incompatibility with various substances:

Reactive with oxidizing agents, acids, alkalis. The product may undergo hazardous decomposition, condensation or polymerization.

Corrosivity: Not available.

Special Remarks on Reactivity: Incompatible with amines, halogens, peroxides. Sensitive to light.

Special Remarks on Corrosivity: Not available.

Polymerization: Yes, it may occur under certain conditions. Read special remarks under the section titled "Stability."

Section 11: Toxicological Information

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

Toxicity to Animals:

Acute oral toxicity (LD50): 900 mg/kg [Rat]. Acute dermal toxicity (LD50): 1780 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 7800 mg/m 2 hours [Mouse]. 3

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. May cause damage to the following organs: kidneys, lungs, liver, upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (sensitizer, permeator), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals:

Lethal Dose/Conc 50% Kill: LD50 [Rabbit] - Route: Skin; Dose: 2 ml/kg

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects based on animal test data

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Causes skin irritation. It can be absorbed through the skin. It may be harmful if absorbed through the skin. Eyes: Causes eye irritation. Inhalation: It causes respiratory tract (nose, throat) irritation causing coughing and wheezing. Inhalation may affect respiration (dyspnea, pulmonary edema, suffocation). Very high exposures may damage the lungs. It may also cause central nervous system effects such as headache, nausea, drowsiness, dizziness, CNS depression. Ingestion: It causes gastrointestinal tract irritation with nausea, vomiting, and diarrhea. It may be harmful

of swallowed. It may affect respiration (respiratory stimulation), and behavior/central nervous system(convulsions, and other symptoms similar to inhalation) Chronic Potential Health Effects: Prolonged or repeated inhalation or ingestion may affect the liver, kidneys. It may also affect behavior/central nervous system(drowsiness, changes in memory, concentration, or sleeping patterns, and mood(especially irritability and social withdrawal), as well as fatigue and headaches), peripheral and autonomic nervous systems. Prolonged inhalation may affect metabolism (weight loss). Very high exposures may result in pulmonary congestion or damage the lungs. Prolonged or repeated skin contact may cause sensitization an allergic reaction.

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 less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Butyl Acrylate, stabilized UNNA: 2348 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Illinois toxic substances disclosure to employee act: Butyl Acrylate Rhode Island RTK hazardous substances: Butyl Acrylate Pennsylvania RTK: Butyl Acrylate Minnesota: Butyl Acrylate Massachusetts RTK: Butyl Acrylate Massachusetts spill list: Butyl Acrylate New Jersey: Butyl Acrylate New Jersey spill list: Butyl Acrylate California Director's List of Hazardous Substances: Butyl Acrylate TSCA 8(b) inventory: Butyl Acrylate SARA 313 toxic chemical notification and release reporting: Butyl Acrylate

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 B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC). CLASS F: Dangerously reactive material.

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 1

Personal Protection: h

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

Health: 3

Flammability: 2

Reactivity: 2

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor 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: Not available.

Other Special Considerations: Not available.

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