

Section 1: Product & Company Information

Product Identifier: Toluene

Other Means of Identification

Product Number: 151251

Recommended Use and Restrictions on Use

Recommended Use: Laboratory chemical. Laboratory and analytical use.

Restrictions on Use: Do not use it for products which come into contact with foodstuffs. Do not use for private purposes (household).

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918 USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Flammable, Liquids - 2

Health Hazard(s)

Aspiration Hazard - 1

Corrosion/Irritation, Skin - 2

Toxic Reproduction - 2

Specific Target Organ Toxicity (STOT)-CNS, Single exposure - 3

Specific Target Organ Toxicity (STOT), Repeated exposure - 2

Environmental Hazard(s)

Aquatic, Acute - 2

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H225: Highly flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin Irritation.

H336: May cause drowsiness or dizziness.

H361: Suspected of damaging fertility or the unborn child.

H373: May cause damage to organs.

H401: Toxic to aquatic life.

Precautionary Statements

General

Not applicable.

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Prevention

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
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.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313: IF exposed or concerned: Get medical advice/attention.
P309 + P311: IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P314: Get medical advice/attention if you feel unwell.
P321: Specific treatment (see supplemental first aid instructions on this label).
P331: Do NOT induce vomiting.
P332 + P313: If skin irritation occurs: Get medical advice/attention.
P362: Take off contaminated clothing and wash before reuse.
P370 + P378: In case of fire: Use suitable extinguishing media for extinction.

Storage

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

No data available

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Toluene	-	108-88-3	100%	No

1. Information regarding the composition and the percentage ranges of the mixtures ingredients are not presented as its Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.

2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.

3. "—" Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing the aid to give mouth to mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact

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Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. If skin irritation occurs: Get medical advice/attention.

Eye Contact

Immediately flush eyes with large amounts of water for 15 minutes. Gently remove contacts while flushing. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get immediate medical attention.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into lungs.

Most important symptoms/effects, acute and delayed

Symptoms

Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/ or chemical pneumonitis. Prolonged or repeated exposure may cause adverse effects on the nervous system and auditory organs. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically. Notes to Physician: If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart stimulating substances like epinephrine. Administration of such substances should be avoided.

Section 5: Fire-Fighting Measures

General Fire Hazards

In case of fire and/or explosion do not breathe fumes.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (not alcohol-resistant).

Unsuitable Extinguishing Media

Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

Specific Hazards Arising from the Chemical

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapor air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g., unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear. Firefighters must use full bunker gear including NIOSH-approved (or equal), full-face, self-contained breathing apparatus (SCBA) operated in positive pressure mode. Firefighters' protective clothing will provide only limited protection against liquid contact.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

Methods and Materials for Containment and Clean-Up

Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapor with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

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Liquid Spill: cover with foam. Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Notification Procedures

Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental Precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform the respective authorities.

Section 7: Handling and Storage

Precautions for Safe Handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for Safe Storage, including any Incompatibilities

Ground/bond container and receiving equipment. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Meet the legal requirements. Under a shelter/in the open. Store at ambient temperature. Keep container in a well-ventilated place. Fireproof storeroom. Store only in a limited quantity. Provide for a tub to collect spills. Provide the tank with earthing. May be stored under nitrogen.
KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens. heat sources. ignition sources.
SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.
SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminum. nickel. polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene. Store always product in container of same material as original container.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Ensure good ventilation of the workstation.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Eye wash bottle with pure water, tightly fitting safety goggles, Wear face-shield and protective suit for abnormal processing problems

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

Full face mask with a filter type A at conc. In air > exposure limits.

Hygiene Measures

When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Section 9: Physical and Chemical Properties

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Appearance:	
Physical State:	Liquid
Color:	Clear, Colorless
Odor:	Aromatic odor
Odor Threshold:	No data available.
pH:	No data available.
Melting Point/Freezing Point:	-95°C (-139 °F)
Initial Boiling Point and Boiling Range:	109 - 111 °C (231.08 °F)
Critical temperature	No data available
Critical Pressure	No data available
Flash Point:	4 - 5 °C (39.2 °F) Method: Tag closed cup
Evaporation Rate (butyl acetate=1):	2.24
Flammability (solid, gas):	flammable liquid in accordance with GHS criteria
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	6.7% (V)
Explosive Limit – Lower:	1.3% (V)
Vapor Pressure:	21 mmHg @ 20 °C (68 °F)
Vapor Density (air = 1):	3.1
Relative Density (water= 1):	0.87 @ 20°C
Specific Gravity /Density	870 kg/m ³
Solubility(ies):	
Solubility in water:	slightly soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	2.73
Auto-Ignition Temperature:	480 - 536 °C
Decomposition Temperature:	No data available.
Viscosity Kinetic	< 3 mm ² /s @ 20 °C (68 °F)
Viscosity Dynamic	No data available
Minimum ignition energy	No data available
Specific Conductivity	No data available
Saturation Concentration	No data available.
VOC Content	100%
Other Properties	No data available.
Other Information:	
Molecular Weight:	92.14 g/mol
Formula:	C ₇ H ₈

Section 10: Stability and Reactivity

Reactivity

It's a reactive substance. Risk of ignition. Vapors may form explosive mixtures with air.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

No dangerous reactions known under normal conditions of use.

Conditions to Avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible Materials

No additional information available.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Harmful if swallowed. Risk of aspiration pneumonia. Nausea. Abdominal pain. Irritation of the gastric/intestinal mucosa. Symptoms similar to those listed under inhalation.

Inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness.

Skin Contact: Causes skin irritation. Red skin.

Eye Contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Toluene: LD50 (Rat): 5580 mg/kg body weight

Benzene: LD50 (Rat): > 2000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 7 day(s))

Dermal

Toluene: LD50 (Rabbit, 24h): >5000 mg/kg body weight

Benzene: LD50 (Rat): > 8260 mg/kg body weight (21 CFR 191.10, 24 h, Rabbit, Male / female, Experimental value, Damaged skin)

Inhalation

Toluene: LC50 (Rat, 4 h): 28.1 mg/l air

Benzene: LD50 (Rat): 43.77 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours), 14 day(s))

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Causes skin irritation.

Serious Eye Damage/Eye Irritation

Shall not be classified as seriously damaging to the eye or eye irritant

Respiratory/Skin Sensitization

Shall not be classified as a respiratory or skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

May damage fertility or the unborn child.

Specific Target Organ Toxicity – Single Exposure

May cause drowsiness or dizziness.

Specific Target Organ Toxicity – Repeated Exposure

May cause damage to organs (central nervous system) through prolonged or repeated exposure (if inhaled).

Aspiration Hazard

May be fatal if swallowed and enters airways.

Other Effects

Potential Adverse Human Health Effects and Symptoms:

May be fatal if swallowed and enters airways. Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Causes skin irritation. Non-toxic in contact with skin (LD50 skin > 5000 mg/kg). May cause drowsiness or dizziness. Non-toxic by inhalation (LC50 inh, rat > 20 mg/l/4h). Moderately irritant for eyes. Caution! Substance is absorbed through the skin.

Chronic:

Dry skin. Skin rash/inflammation. Impairment of the nervous system. Tremor. Impaired memory. Impaired concentration. Brain affection. Disturbances of heart rate. Change in the haemogramme/blood composition.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Benzene: LC50 - 5.3 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Lethal)
Toluene: LC50 - 5.5 mg/l (96 h, Oncorhynchus kisutch, Flow-through system, Fresh water, Experimental value, Lethal)

Aquatic Invertebrates

Benzene: LC50 - 10 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Locomotor effect)

Toxicity to Aquatic Plants

Benzene: LC50 - 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, GLP)

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

Toluene: EC50 (Aquatic Invertebrates 7d): 3,23 mg/l
Toluene: LC50 (Aquatic Invertebrates), 2d): 3,78 mg/l

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Expected to be readily biodegradable.

BOD/COD Ratio

BOD: 2.15g O₂/g
COD: 2.52 g O₂/g
ThOD: 3.13 O₂/g
BOD: 0.69

Bioaccumulative Potential

Bioconcentration Factor (BCF)

90 (72 h, Leuciscus idus, Static system, Fresh water, Experimental value)

Partition Coefficient n-octanol / water (log K_{ow})

2.73 (pH value: 7, 20 °C) (ECHA)

Mobility in Soil

Low potential for adsorption in soil.

Other Adverse Effects

Ecology – Water: Toxic to crustacea. Toxic to fishes. Groundwater pollutant. Fouling to shoreline. Inhibits photosynthesis of algae. Harmful to bacteria. Taste alteration in fishes/aquatic organisms.

Section 13: Disposal Considerations

Disposal Instructions

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations. Do not empty the product into the drains. Avoid release to the environment.
Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Do not landfill. Incinerate under surveillance with energy recovery. May be discharged to company wastewater treatment plant.

Contaminated Packaging

Empty remaining contents. Dispose of it as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN1294
UN Proper Shipping Name: Toluene
Technical Name: -
Hazard Class: 3
Subsidiary Hazard Risk: -
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: IB2, T4, TP1

Packaging Exceptions: 49CFR 173.150
Packaging Non-Bulk: 49CFR 173.202
Packaging Bulk: 49CFR 173.242
Reportable Quantity (RQ): 1000lb (454kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 130

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:
Toluene (CAS# 108-88-3): 1000lb

Clean Air Act (CAA), Section 112(r)

The Following chemical(s) in this material are subject to the reporting requirements of CAA.
Cas# 108-88-3 Toluene

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: Yes
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 313:
Toluene (CAS# 108-88-3)

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 3

Chronic Health Hazard: *

Flammability: 3

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 2

Fire Hazard: 3

Reactivity Hazard: 0

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

SAFETY DATA SHEET

Print Date: September 3, 2025

Prepared By: Regulatory Manager
Version #: 001
Issue Date: July 7, 2015
Last Revised By: Regulatory Assistant C
Last Revision Date: 6/16/2025
Current Revision: 05
Sections Revised: 2, 4, 6, 9-12, 16

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA - American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL - Immediately Dangerous to Life and Health	CAS - Chemical Abstracts Service
Kg - Kilogram	DOT - US Department of Transportation
l - Liter	EPA - US Environmental Protection Agency
lb - Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml - milliliter	IMDG - International Maritime Dangerous Goods
N/A - Not Applicable	NIOSH - National Institute for Occupational Safety and Health
N/D - Not Determined	NTP - National Toxicology Program
PEL - Permissible Exposure Limit	OSHA - US Occupational Health and Safety Administration
REL - Recommended Exposure Limit	SARA - US EPA Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit	TSCA - US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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