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Material Safety Data Sheet

TOLUENE DIISOCYANATE -TDI

SECTION 1: IDENTIFICATION

Product Name: TOLUENE DIISOCYANATE -TDI

Chemical Family: Isocyanates

CAS Number: Mixture

Chemical Name: Toluene diisocyanate

Synonyms: Toluene diisocyanate, TDI

Type of Use: Polyurethane foam. Toluene, 2,4(or 2,6)-diisocyanate (CAS# 26471-62-5, EINECS# 247-722-4) is a mixture
of the isomers toluene, 2,4-diisocyanate (CAS# 584-84-9, EINECS# 209-544-5) and toluene, 2,6-diisocyanate (CAS#
91-08-7, EINECS# 202-039-0).

Quality Standard：Q/DHJ.02.02-1999

Chemical Formular：$C_9H_6O_2N_2$

Molecular Weight：174

Appearance：water-with to pale yellow clear liquid with irritating odour.

Applications：raw material for producing polyurethane foam plastics, elastomer, painting , adhesive and sealant, etc.

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview

The purpose of this MSDS is to transmit important product safety information.

Physical State

liquid

Color

Clear, colorless to slightly yellow.

Odor

pungent odor

Odor Threshold

0.4 - 2.14 ppm / Odor is not an adequate warning of potentially hazardous ambient air concentrations.

Potential Health Effects

Routes of Exposure

Eye. Inhalation. Skin.

Signs and Symptoms of Acute Exposure

See component summary.

Toluene-2,4-Diisocyanate 584-84-9

Extremely toxic by inhalation - allergic sensitizer. Inhalation may cause asthma-like symptoms, including coughing,wheezing, tightness of chest, shortness of breath, and headache. Severe eye irritant. Moderate skin irritant – allergic sensitizer. Irritating to gastrointestinal tract.

Toluene-2,6-Diisocyanate 91-08-7

Extremely toxic by inhalation - allergic sensitizer. Inhalation may cause asthma-like symptoms, including coughing,wheezing, tightness of chest, shortness of breath, and headache. Moderate skin irritant - allergic sensitizer. Severe eyeirritant. Irritating to gastrointestinal tract.

Skin

Minimal hazard by skin contact; however contact with skin causes skin irritation and may cause skin and respiratorysensitization.

Inhalation

Exposure to vapor may cause irritation of the eyes, nose, and respiratory tract. Inhalation may cause asthma-like symptoms, including coughing, wheezing, tightness of chest, shortness of breath, and headache. May cause lung damage.

Symptoms may be delayed.

Eye

May cause severe eye irritation. Severe irritation may result in corneal opacity, redness, inflammation of the iris and swelling of the conjuctiva.

Ingestion

Ingestion may result in irritation of the mouth and digestive tract. Gastroenteritis may result with any or all of the following symptoms: nausea, vomiting, diarrhea, headache. May cause damage to the stomach. Aspiration may cause lung damage.

Chronic Health Effects

Prolonged or repeated exposure to vapors may cause lung damage. Repeated over exposure to isocyanates and high one time accidental exposures have been associated with gradual decrease in lung function. Repeated inhalation also may cause allergic sensitization of the respiratory tract, resulting in coughing, wheezing, shortness of breath, chest tightness,and other asthma-like symptoms that may be life-threatening. Repeated skin contact may cause irritation and allergic dermatitis. Industrial experience in humans has not shown any link between TDI exposure and cancer development.

Toluene-2,4-Diisocyanate 584-84-9

Toluene Diisocyanate (TDI) is a potent skin and respiratory allergic sensitizer. Sensitive individuals may exhibit skin rash,wheezing, tightness of the chest, and difficulty breathing that may progress to a life-threatening inability to breathe. Chronic inhalation may cause lung damage. Listed by IARC as a group 2B - Possible Human Carcinogen. NTP Anticipated Carcinogen

Toluene-2,6-Diisocyanate 91-08-7

Sensitive individuals may exhibit skin rash, wheezing, tightness of the chest, and difficulty breathing that may progress to a life-threatening inability to breathe. Chronic inhalation may cause lung damage. Listed by IARC as a group 2B – Possible Human Carcinogen. NTP Anticipated Carcinogen

Conditions Aggravated by Exposure

This material is an irritant: may aggravate existing dermatitis. Breathing of vapor and/or mist may aggravate asthma and inflammatory or fibrotic lung disease. Exposure may aggravate one or more of the following medical conditions: Asthma or asthmatic bronchitic medical history. History or presence of allergic disease.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS #	EU Inventory	Concentration Wt.%
Toluene-2,4-Diisocyanate	584-84-9	209-544-5	80.0±1.0
Toluene-2,6-Diisocyanate	91-08-7	202-039-0	20.0±1.0

Compositions given are typical values not specifications.

SECTION 4: FIRST AID MEASURES

General

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this MSDS. Prompt action is essential. Assess rapidly and aggressively. Resuscitation may be indicated.

Skin

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Inhalation

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention.

Eye

Immediately flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower lids. If pain or irritation persists, promptly obtain medical attention.

Ingestion

Do not induce vomiting because of possible severe irritant side effects. Obtain emergency medical attention.

Note to Physician

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties

Flash Point

~ 121 °C (269.6 °F) (COC)

Auto-Ignition Temperature

> 620 °C (1,148 °F)

Lower Flammable Limit

0.9 vol%

Upper Flammable Limit

9.5 vol%

Extinguishing Media

Suitable:

SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog oralcohol-resistant foam. Water to be used only in large quantities due to reactivity.

Unsuitable:

Most foams will react with the material and release corrosive/toxic gases.

Protection of Firefighters

Protective Equipment/Clothing:

Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically

Protective Equipment/Clothing:

recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing is recommended for fire situations ONLY; it is not effective in spill situations.

Fire Fighting Guidance:

On exposure to high temperature, may decompose, releasing toxic/flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Under fire conditions, highly hazardous fumes will be present. Use water with care on closed containers - material will react with water/generate pressure/may explode/spread fire/increase risk of burns/injuries/contact with hazardous material. Liquid heavier than water. Blanket with alcohol-resistant foam. Note: Most foams will react with the material and release corrosive/toxic gases. Byproduct of water reaction may be harmful - minimize exposure to water contacting this material. When fighting a fire, notify environmental authorities if liquid runoff enters sewers or public waters.

Hazardous Combustion Products:

During instances of thermal decomposition or combustion, the liberation of diisocyanate vapors and other irritating, highly toxic gases may be generated and/or released. Traces of hydrogen cyanide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Release Response

Highly reactive material. May release toxic materials/contaminate water supplies/create human health hazard.Liquids/vapors may ignite. Equip responders with proper protection. Use self-contained breathing apparatus and body-covering protective clothing. Evacuate/limit access. Extinguish ignition sources; stop release; prevent flow to sewers or public waters. Blanket with alcohol-resistant foam. Impound/recover large land spill; soak up small spill with inert solids.Avoid water for clean-up or use in large quantities due to reactivity. Use suitable disposal containers. Reacts with water,releasing CO2, forming urea polymers. Contain/collect rapidly to minimize dispersion. Disperse residue to reduce aquatic harm. Report per regulatory requirements. Notify fire and environmental authorities.

SECTION 7: HANDLING AND STORAGE

Handling

Use special care when handling/transporting samples. Store at 20-24°C. Material sampling procedures should avoid vapor inhalation and skin/eye contact and only be conducted with proper protective

equipment. All containers should be labeled to warn against exposure. Handle empty containers with care - residue may be combustible. When cleaning or repairing equipment contaminated with this material, total encapsulating impervious protective suits, gloves, and boots should be worn to prevent any contact. A positive pressure self-contained breathing apparatus and/or a supplied air respirator should be used. Decontaminate empty, non-returnable isocyanate drums by filling with water. Allow to stand 48 hours with bung removed. After 48 hours, drain and pierce drums. Wash with sodium carbonate solution (5-10%).

Storage

All containers should be labeled to warn against exposure. Store in tightly closed/properly vented containers with vents directed to locations removed from potential personnel exposure. Store in well ventilated area away from water, moisture,humidity, and direct sunlight. Store at 20-24°C. Do not store in galvanized or other corrodible containers. Storage an handling in stainless steel is preferred. Storage in polyethylene containers is hazardous because of absorption of water through the plastic.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Local exhaust and general ventilation must be adequate to meet exposure limit(s).

Personal Protection

Inhalation

Extreme inhalation hazard. Use an approved respirator, either air-supplied or air purifying (consult your company safety professional, or Lyondell Industrial Hygiene group for guidance). The type of respiratory protection will depend upon whether the maximum exposure concentration is known.

Skin

Wear chemical resistant gloves such as: Nitri-knit(TM). Nitrile. Butyl rubber. 4H(tm)(PE/EVAL). or Neoprene. Exposed skin which may come in contact with this material should be protected using appropriate impervious skin protection.Protective clothing including gloves, apron, sleeves, boots, and full head/face protection should be worn. The equipment must be cleaned thoroughly after each use. Eye

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to splashing/spraying liquid, airborne particles, or vapor.

Additional Remarks

The "Immediately Dangerous to Life and Health" (IDLH) concentration for toluene diisocyanate is (2.5ppm) Ca. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Wash clothing frequently.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid Clear, colorless to slightly yellow.
Odor: pungent odor
Odor Threshold: 0.4 - 2.14 ppm Odor is not an adequate warning of potentially hazardous ambient air concentrations.
pH: Not applicable.

Boiling Point/Boiling Range: 250 °C (482 °F) @ 750 mm Hg
Freezing Point/Melting Point: ~ 13.5 - 14.5 °C (56.3 - 58.1 °F)
Flash Point: ~ 121 °C (269.6 °F) (COC)
Auto-ignition: > 620 °C (1,148 °F)
Flammability:
Lower Flammable Limit: 0.9 vol%
Upper Flammable Limit: 9.5 vol%
Explosive Properties: No Data Available.
Oxidizing Properties: No Data Available.
Vapor Pressure: ~ 0.003 kPa @ 25 °C (77 °F)
Evaporation Rate: No Data Available.
Relative Density: 1.2 @ 20 °C (68 °F)
Relative Vapor Density: 6 (Air = 1.0)
Viscosity: 3.0 mPa.s @ 25 °C (77 °F)
Solubility (Water): Reacts.
Partition Coefficient (Kow): Log Kow = 3.4 - 3.6
Additional Physical and Chemical Properties: Additional properties may be listed in Sections 2 and 5.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability
This material is stable when properly handled and stored.
Conditions to Avoid
Excessive heat and light. Heat, sparks, open flame, other ignition sources, oxidizing conditions, moisture, and high humidity.
Substances to Avoid
Polymerization initiators. Amines. Alcohols. Water. Bases. Acids. Copper. Copper alloys. Zinc. Tin. Strong oxidizing agents.
Decomposition Products
During instances of thermal decomposition or combustion, the liberation of diisocyanate vapors and other irritating, highly toxic gases may be generated and/or released. Hydrogen cyanide.
Hazardous Polymerization
Not expected to occur.
Reactions with Air and Water
Reacts with water, releasing CO2, forming urea polymers.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION
Product Summary
This information represents two isomeric compounds, 2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions. Unless otherwise stated, the health effects presented in this section apply to both isomers. Acute studies indicate that toluene diisocyanate (TDI) is highly toxic after inhalation exposure;whereas oral ingestions and skin contact present a low acute toxicity hazard. TDI is irritating to the eye, skin, and respiratory tract. It is a skin sensitizer and can cause allergic skin reactions after contact with the skin. Inhalation or skin contact to TDI can cause respiratory sensitization resulting in an allergic asthma-like reaction following inhalation exposure. Symptoms of exposure may be delayed. Results from repeat exposure studies in animals indicate that the irritant properties of TDI cause injury to the respiratory tract after prolonged exposure. No adverse changes were observed in male or female reproductive organs and there was no effect on fertility in rats after inhalation exposure. There were no malformations in fetuses of female rats exposed to TDI throughout pregnancy. Inconsistent results have been obtained from mutagenicity tests in vitro,
however no genetic toxicity was observed in rodents treated in vivo. There was no increase in tumors in rats and mice exposed for 2 years via inhalation; whereas long-term ingestion of TDI was carcinogenic to rats and mice.

COMPONENT INFORMATION
Toluene-2,4-Diisocyanate 584-84-9
Acute Toxicity - Lethal Doses
LC50 (Inhl) rat ~ 66 PPM 1 HOUR
Rat ~ 45PPM 4 HOUR
LD50 (Oral) rat 4130 - 5110 MG/KG BWT
LD50 (Skin) Rabbit > 9400 MG/KG BWT
Acute Toxicity - Effects
Ingestion
Ingestion may result in irritation of the mouth and digestive tract. Gastroenteritis may result with any or all of the following symptoms: nausea, vomiting, diarrhea, headache. May cause damage to the

stomach.
Skin Contact
Minimal hazard by skin contact; however contact with skin causes skin irritation and may cause skin and respiratory
sensitization.
Irritation
Skin
Moderate skin irritant.
Eye
Severe eye irritant. Severe irritation may result in corneal opacity, redness, inflammation of the iris and swelling of the conjuctiva.
Sensitization
Respiratory sensitizer. May cause respiratory sensitization following dermal or inhalation exposure. This material may cause sensitization by skin contact.
Target Organ Effects
Skin. Eye. Lung. Respiratory system. Gastrointestinal tract.
Repeated Dose Toxicity
TDI administered repeatedly to laboratory animals at doses of 300 mg/kg bwt (oral) caused injury to the stomach, small intestine, lungs, and trachea. Repeated exposure at 0.24 ppm (inhalation) caused injury to the respiratory tract (nasal passages, trachea, larynx, bronchi, and lungs; at 0.08 ppm, local nasal effects (rhinitis) were present. Serious risk to health after prolonged exposure.
Reproductive Effects
No adverse effect on reproductive performance was observed in male and female rats exposed to TDI by inhalation at concentrations up to 0.30 ppm over two generations.
Developmental Effects
TDI is not teratogenic in rats exposed by inhalation during pregnancy at concentrations up to 0.50 ppm. Maternal toxicity and minimal fetotoxicity occurred at 0.50 ppm. Post-natal toxicity evident by reduced body weight was observed in offspring of rats repeatedly exposed by inhalation to 0.08 ppm TDI before mating, during pregnancy, and during lactation.
Genetic Toxicity
Inconsistent evidence of mutagenic activity in test systems in vitro. No increase in micronuclei or unscheduled DNA synthesis in rodents after in vivo exposure.
Carcinogenicity
No increase in tumors in rats or mice after long-term exposure via inhalation at concentrations up to 0.15 ppm. Long-term ingestion of doses of 60 mg/kg bwt and greater caused increases in tumors in rats and mice. Rats exhibited an increased incidence in subcutaneous fibromas and fibrosarcomas, mammary gland fibroadenomas, pancreatic acinar-cell and islet-cell adenomas, and neoplastic liver nodules and mice showed increases in the incidence of hemangiomas and hemangiosarcomas and hepatocellular adenomas. Human studies of occupational exposure to isocyanates have not found a strong association or consistent pattern of cancer. Based upon animal ingestion studies, TDI has been classified by NTP
as reasonably anticipated to be a carcinogen, by IARC as a Group 2B - possibly carcinogenic to humans, and as a potential occupational carcinogen by NIOSH.

Toluene-2,6-Diisocyanate 91-08-7
Irritation
Skin
Moderate skin irritant. Skin sensitizer.
Eye
Severe eye irritant. Severe irritation may result in corneal opacity, redness, inflammation of the iris and swelling of the conjuctiva.

SECTION 12: ECOLOGICAL INFORMATION

PRODUCT INFORMATION

Ecotoxicity

The ecotoxicological information for the acute and chronic aquatic toxcity effects represents two isomeric compounds,2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the aquatic toxicity effects presented in this section apply to both isomers. This material is classified as harmful to invertebrates. May exhibit chronic toxicity in specific invertebrates. This material is not harmful or toxic to fish. See component summary.

Environmental Fate and Pathway

The environmental impact information for the environmental fate and pathway effects represents two isomeric compounds, 2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the environmental fate and pathway effects presented in this section apply to both isomers. In the atmosphere, TDI degrades by

reaction with hydroxyl radicals with a half-life of 2.2 days. Undergoes rapid hydrolysis in water with a half-life under 1 minute to produce polyureas, which are inert, insoluble solids. Not expected to volatilize, leach, or adsorb to solids in moist soil. Not expected to volatilize from dry soil surfaces. Not readily or inherently biodegradable. This material is not expected to bioaccumulate.

COMPONENT INFORMATION

Toluene-2,4-Diisocyanate 584-84-9

Ecotoxicity

The ecotoxicological information for the acute and chronic aquatic toxcity effects represents two isomeric compounds,2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the aquatic toxicity effects presented in this section apply to both isomers. This material is notharmful or toxic to fish. This material is classified as harmful to invertebrates. May exhibit chronic toxicity in specific invertebrates.
Acute toxicity to fish
LC50 / 96 HOUR rainbow trout. 133 mg/l
LC50 / 96 HOUR Japanese medaka 4,170 mg/l
LC50 / 96 HOUR Zebra Fish. > 100 mg/l
LC50 / 24 HOUR Zebra Fish. > 500 mg/l

Acute toxicity to aquatic invertebrates
EC50 / 48 HOUR daphnia 12.5 mg/l
EC50 / 24 HOUR daphnia 750 mg/l
NOEC / 24 HOUR daphnia > 500 mg/l
EC50 / 48 HOUR common shrimp (mysid) 18.3 mg/l
EC50 / 24 HOUR freshwater snail > 500 mg/l
Summary: This material is classified as harmful to invertebrates.

Toxicity to aquatic plants
EC50 / 96 HOUR green algae. 4,300 mg/l
EC10 / 96 HOUR green algae. > 2,000 mg/l
EC50 / 96 HOUR algae 3,230 mg/l
Summary: This material is not harmful or toxic to algae or higher aquatic plants.

Toxicity to microorganisms
EC50 / 3 HOUR Activated sludge > 100 mg/l
Summary: Respiration inhibition.
NOEC / 10 DAY bacteria. > 100 mg/l
Summary: Summary: Growth

Chronic toxicity to fish
Summary: No Data Available.

Chronic toxicity to aquatic invertebrates
NOEC / 21 DAY daphnia 1.1 mg/l
Summary: (reproduction)
EC50 / 21 DAY daphnia 2.0 mg/l
Summary: (reproduction)

Environmental Fate and Pathway

The environmental impact information for the environmental fate and pathway effects represents two isomeric compounds,2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the environmental fate and pathway effects presented in this section apply to both isomers. In the atmosphere, TDI degrades by reaction with hydroxyl radicals with a half-life of 2.2 days. Undergoes rapid hydrolysis in water with a half-life under 1 minute to produce polyureas, which are inert, insoluble solids. Not expected to volatilize, leach, or
adsorb to solids in moist soil. Not expected to volatilize from dry soil surfaces. Not readily or inherently biodegradable. This material is not expected to bioaccumulate.
Persistance and Degradability Stability in Water: Reacts with water to form stable, insoluble polyureas. Not expected to volatilize from surface waters. Not likely to adsorb to suspended solids and sediment in water.Stability in Soil: Not expected to volatilize, leach, or adsorb to solids in moist soil. Not expected to volatilize from dry soil surfaces.Biodegradation: It reacts rapidly in water to give products resistant to biodegradation. Not readily or inherently biodegradable.Bioaccumulation: This material is not expected to bioaccumulate.

Toluene-2,6-Diisocyanate 91-08-7

Ecotoxicity

The ecotoxicological information for the acute and chronic aquatic toxcity effects represents two isomeric compounds,2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the aquatic toxicity effects presented in this section apply to both isomers.

Environmental Fate and Pathway

The environmental impact information for the environmental fate and pathway effects represents two isomeric compounds,2,4-toluene diisocyanate and 2,6-toluene diisocyanate, as well as mixtures of these two isomers in various proportions.Unless otherwise stated, the environmental fate and pathway effects presented in this section apply to both isomers.

SECTION 13: DISPOSAL CONSIDERATIONS

Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes under applicable local, state or international regulations due to toxicity. Use registered transporters. Decontaminate containers thoroughly before reuse/disposal. Incinerate concentrated liquids in compliance with local, state or international regulations. Do not treat biologically; may poison/upset plant biomass. Consider permitted contractor for off site treatment/disposal. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

SECTION 14: TRANSPORT INFORMATION

Special Requirements

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper Shipping Name TOLUENE DIISOCYANATE
ID No. UN 2078
Hazard Class 6.1
PG II

SECTION 15: REGULATORY INFORMATION

Regulatory Status

This product and its components are listed, or exempt from listing, on the following:

Country	Inventory
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS
Korea	ECL
Philippines	PICCS
United States	TSCA
New Zealand	NZIoC

SECTION 16: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

This document is generated for the purpose of distributing health, safety, and environmental data. It is not a specification sheet nor should any displayed data be construed as a specification.
The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

DISCLAIMER OF RESPONSIBILITY

Numerical Data Presentation
The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example,1,234.56 mg/kg = 1 234,56 mg/kg.
Language Translations
This document may be available in languages other than English.

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