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1. Product and Company Identification

Company BASF CORPORATION 100 Park Avenue Florham Park, NJ 07932, USA 24 Hour Emergency Response Information CHEMTREC: 1-800-424-9300 BASF HOTLINE: 1-800-832-HELP (4357)

2. Hazards Identification

Emergency overview

DANGER:

HARMFUL IF INHALED.

SENSITIZATION CAN OCCUR IN SOME INDIVIDUALS, LEADING TO ASTHMA-LIKE SPASMS OF THE BRONCHIAL TUBES AND DIFFICULTY BREATHING. INDIVIDUALS WITH A HISTORY OF RESPIRATORY ILLNESS, ASTHMATIC CONDITIONS, EYE DAMAGE OR TDI SENSITIZATION SHOULD NOT BE EXPOSED TO THIS PRODUCT. TDI IS INCLUDED IN THE NTP ANNUAL REPORT ON CARCINOGENS. RESULTS FROM A TDI HEALTH STUDY INDICATE THAT OVEREXPOSURE TO A RESPIRATORY IRRITANT, RESULTING IN LOWER RESPIRATORY TRACT SYMPTOMS COULD INCREASE THE RISKS OF DEVELOPING ASTHMA-LIKE REACTIONS FROM SUBSEQUENT TDI EXPOSURE.

Irritating to eyes, respiratory system and skin.

CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Avoid contact with the skin, eyes and clothing.

State of matter: liquid Colour: amber Odour: mild

Potential health effects

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Of very high toxicity after short-term inhalation. Virtually nontoxic after a single skin contact. Virtually nontoxic after a single ingestion.

Irritation / corrosion:

Eye contact causes irritation. Skin contact causes irritation.

Sensitization:

Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract.

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Chronic toxicity:

Carcinogenicity: Contains a suspect carcinogen.

Medical conditions aggravated by overexposure:

The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended. Contact may aggravate pulmonary disorders.

Signs and symptoms of overexposure:

In sensitized individuals, sensitization reactions may be elicited by structurally similar substances. Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.

Information on: TDI

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Potential environmental effects

Aquatic toxicity:

Acutely harmful for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

CAS Number	Content (W/W)	Chemical name
4098-71-9	>= 7.0 - <= 13.0 %	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
52624-57-4	>= 1.0 - <= 5.0 %	Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-
		(hydroxymethyl)-1,3-propanediol (3:1)
1333-86-4	>= 0.5 - <= 1.5 %	carbon black

4. First-Aid Measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:

Wash affected areas thoroughly with soap and water. Immediate medical attention required.

If in eves

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

5. Fire-Fighting Measures

Lower explosion limit:No data available.Upper explosion limit:No data available.Self-ignition temperature:not self-igniting

Suitable extinguishing media:

carbon dioxide, dry powder, water spray

Hazards during fire-fighting:

nitrous gases, fumes/smoke, isocyanate, vapour

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6. Accidental release measures

Personal precautions:

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater.

7. Handling and Storage

Handling

General advice:

Mix thoroughly before use. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

Protection against fire and explosion:

No explosion proofing necessary.

Storage

General advice:

Formation of CO2 and build up of pressure possible. Protect against contamination. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage incompatibility:

General advice: Segregate from bases.

Storage stability:

Storage temperature: 65 - 105 °F

Protect against moisture. Store at indicated temperature to prevent freezing and isomer separation or discolourization and dimerization. Thaw solidified substance/product at temperature < 95 °F to prevent discolourization.

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8. Exposure Controls and Personal Protection

Components with workplace control parameters

carbon black OSHA PEL 3.5 mg/m3;

ACGIH TWA value 3.5 mg/m3;

3-isocyanatomethyl-3,5,5-

trimethylcyclohexyl isocyanate ACGIH TWA value 0.005 ppm;

Advice on system design:

Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:

For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

Hand protection:

Chemical resistant protective gloves, Suitable materials, chloroprene rubber (Neoprene), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, fluoroelastomer (Viton), nitrile rubber (Buna N)

Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Suitable materials, saran-coated material

General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form: liquid
Odour: mild
Colour: amber

pH value: not applicable

Boiling point: 105 - 157.78 °C

Density: 8.7 lb/USg (25 °C)

Vapour density: Heavier than air.
Partitioning coefficient n- No data available.

octanol/water (log Pow):

Other Information: If necessary, information on other physical and chemical parameters is

indicated in this section.

10. Stability and Reactivity

Conditions to avoid:

Avoid moisture.

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Substances to avoid:

strong oxidizing agents, strong bases, strong acids

Hazardous reactions:

The product is chemically stable.

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalies. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

Decomposition products:

carbon oxides

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

11. Toxicological information

Acute toxicity

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Assessment of acute toxicity:

Of very high toxicity after short-term inhalation. The substance was tested in form of respirable aerosols. Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Irritation / corrosion

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Assessment of irritating effects:

Irritating to eyes and skin.

Information on: Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)

Assessment of irritating effects:

Not irritating to the skin. May cause severe damage to the eyes. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Sensitization

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Assessment of sensitization:

The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

Repeated dose toxicity

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation.

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Genetic toxicity

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

The substance was not mutagenic in bacteria.

The substance was mutagenic in a mammalian cell culture test system. The substance was not mutagenic in a test with mammals.

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Carcinogenicity

Information on: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Information on: carbon black

IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term animal studies in which the substance was given by inhalation in high concentrations, a carcinogenic effect was observed. A clear indication of an increased risk of cancer in humans has so far not been shown. No carcinogenic potential can be deduced from other studies with rats and mice.

12. Ecological Information

Aquatic toxicity

Information on: TDI

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The product may hydrolyse. The test result maybe partially due to degradation products. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Poorly biodegradable.

The product is unstable in water. The elimination data also refer to products of hydrolysis.

Other adverse effects:

Do not release untreated into natural waters. Do not allow to enter soil, waterways or waste water channels.

13. Disposal considerations

Waste disposal of substance:

TDI is listed as a hazardous waste under Section 261.33 (f) of EPA's RCRA regulations and requires special handling for disposal. Incinerate waste containing TDI in a RCRA-licensed facility.

Container disposal:

Empty containers must be neutralized with a decontaminant. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers). Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated.

RCRA:

14. Transport Information

U223

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport IMDG

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Not classified as a dangerous good under transport regulations

Air transport IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

OSHA hazard category: IARC 1, 2A or 2B carcinogen; Chronic target organ effects reported; ACGIH

TLV established

EPCRA 311/312 (Hazard categories): Acute; Chronic

EPCRA 313:

CAS Number Chemical name

4098-71-9 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

CERCLA RQCAS NumberChemical name5000 LBS7664-38-2phosphoric acid1000 LBS108-88-3Toluene100 LBS108-90-7chlorobenzene

State regulations

State RTKCAS NumberChemical nameMA, NJ, PA1333-86-4carbon black

CA Prop. 65:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

16. Other Information

HMIS III rating

Health: 3^m Flammability: 1 Physical hazard: 1

NFPA and HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria. The NFPA system was developed to provide an onthe-spot alert to the hazards of a material, and their severity, to emergency responders. The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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MSDS Prepared by:

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