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1. Product and Company Identification

Use: Product for construction chemicals

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

WARNING: COMBUSTIBLE LIQUID. HARMFUL IF INHALED. SENSITIZER.

CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

May cause sensitization by inhalation.
May cause sensitization by skin contact.
Inhalation may cause central nervous system effects.
Irritating to eyes, respiratory system and skin.
Avoid contact with the skin, eyes and clothing.
Avoid all sources of ignition: heat, sparks, open flame.

State of matter: liquid Colour: grey

Odour: of chlorinated solvents

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 moderate toxicity after short-term inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Irritation / corrosion:

Eye contact causes irritation. Skin contact causes irritation.

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Sensitization:

Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract. Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.

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:

Symptoms can appear later.

3. Composition / Information on Ingredients

CAS Nu	<u>ımber</u>	Content (W/W)	Chemical name
5124-30) - 1	>= 10.0 - <= 30.0 %	4,4'-methylenedicyclohexyl diisoncyanate
98-56-6		>= 5.0 - <= 10.0 %	Benzene, 1-chloro-4-(trifluoromethyl)-
13463-6	7-7	>= 1.0 - <= 5.0 %	Titanium dioxide
108-65-6	6	>= 1.0 - <= 5.0 %	1-methoxy-2-propylacetate
		>= 1.0 - <= 5.0 %	Proprietary polymer 23EB
1344-28	-1	>= 1.0 - <= 5.0 %	Aluminum oxide
1305-78	-8	>= 1.0 - <= 5.0 %	calcium oxide
68909-7	9-5	>= 1.0 - <= 5.0 %	Hematite, chromium green 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. If irritation develops, seek medical attention.

If in eyes:

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.

Note to physician

Antidote: Specific antidotes or neutralizers to isocyanates do not exist.

Treatment: Treatment should be supportive and based on the judgement of the physician in

response to the reaction of the patient.

5. Fire-Fighting Measures

Flash point: 68 °C (ASTM D56)

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153 °F

Autoignition: not determined Self-ignition temperature: not self-igniting

Suitable extinguishing media:

water spray, dry powder, carbon dioxide, foam

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.

Further information:

Sealed containers should be protected against heat as this results in pressure build-up.

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.

Cleanup:

Ensure adequate ventilation. Avoid sources of ignition.

For small amounts: Sweep/shovel up. Dispose of absorbed material in accordance with regulations. For large amounts: Contain spillage. Pick up with suitable absorbent material. Sweep/shovel up. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Handling

General advice:

Avoid contact with the skin, eyes and clothing. Avoid excessive temperatures. Avoid aerosol formation. Avoid all sources of ignition: heat, sparks, open flame. Avoid humidity.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. If exposed to fire, keep containers cool by spraying with water.

<u>Storage</u>

General advice:

Formation of CO2 and build up of pressure possible. 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 stability:

Storage temperature: 15 - 26 °C Protect against moisture.

8. Exposure Controls and Personal Protection

Components with workplace control parameters

4,4'-methylenedicyclohexyl

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ACGIH diisoncyanate TWA value 0.005 ppm; Titanium dioxide OSHA PEL 15 mg/m3 Total dust; **ACGIH** TWA value 10 mg/m3;

OSHA PEL 5 mg/m3;

ACGIH

TWA value 2 mg/m3;

OSHA PEL 0.5 mg/m3 (Chromium (Cr)); PEL 1 mg/m3 Hematite, chromium green

(Chromium (Cr));

Aluminum oxide **OSHA** PEL 5 mg/m3 Respirable fraction; PEL 15 mg/m3

Total dust ;

Advice on system design:

calcium oxide

black

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified airpurifying 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, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen based on level of activity and exposure.

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:

Odour: of chlorinated solvents

Colour: grey

pH value: not applicable Boiling point: not applicable

Vapour pressure: 5.3 mmHg (20 °C) Density: 1.177 g/cm3 (24 °C)

9.81 lb/USg

Partitioning coefficient n-

not applicable

octanol/water (log Pow): Solubility in water:

Reacts with water.

10. Stability and Reactivity

Conditions to avoid:

Avoid moisture.

Substances to avoid:

water, alcohols, strong bases, Substances/products that react with isocyanates.

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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:

Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

Oxidizing properties:

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

11. Toxicological information

Acute toxicity

Information on: 4,4'-methylenedicyclohexyl diisoncyanate

Assessment of acute toxicity:

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

Innalation of HDI vapors may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. High airborne concentrations may result additionally in eye irritation, headache, chemical bronchitis, asthma-like symptoms or pulmonary edema. Isocyanates have also been reported to cause hyper-sensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Symptoms include nausea, vomiting and abdominal pain.

Irritation / corrosion

Information on: 4,4'-methylenedicyclohexyl diisoncyanate

Assessment of irritating effects: Irritating to eyes and skin.

Information on: Benzene, 1-chloro-4-(trifluoromethyl)-

Assessment of irritating effects:

May cause slight irritation to the skin. Not irritating to the eyes.

Information on: calcium oxide Assessment of irritating effects: Corrosive! Damages skin and eyes.

Information on: Proprietary polymer 23EB

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 products of a similar structure and composition.

Sensitization

Information on: 4,4'-methylenedicyclohexyl diisoncyanate

Assessment of sensitization:

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

Repeated dose toxicity

Information on: 4,4'-methylenedicyclohexyl diisoncyanate

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Assessment of repeated dose toxicity:

Acute or chronic overexposures to isocyanates may cause sensitization in some individuals, resulting in allergic symptoms of the lower respiratory tract (asthma-like), including wheezing, shortness of breath and difficulty breathing. Subsequent reactions may occur at or substantially below the PEL and TLV. Asthma caused by isocyanates, including HDI, may persist in some individuals after removal from exposure and may be irreversible.

Information on: Benzene, 1-chloro-4-(trifluoromethyl)-

Assessment of repeated dose toxicity:

Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure.

May affect the liver and kidneys as indicated in animal studies. Overexposure may cause blood abnormalities.

Carcinogenicity

Information on: Titanium dioxide

IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term studies in rats in which the substance was given by inhalation, a carcinogenic effect was observed. Tumors were only observed in rats after chronic inhalative exposure to high concentrations which caused sustained lung inflammation. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. Dermal exposure is not expected to be carcinogenic.

Other Information:

Information on: 4,4'-methylenedicyclohexyl diisoncyanate development of pulmonary edema

12. Ecological Information

Aquatic toxicity

Information on: 4,4'-methylenedicyclohexyl diisoncyanate

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Other adverse effects:

Do not release untreated into natural waters. Do not allow to enter soil, waterways or waste water channels. The product has not been tested. The statement has been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:

Incinerate or dispose of in a licensed facility. Observe all local regulations.

Container disposal:

Do not reuse empty containers.

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14. Transport Information

Land transport

USDOT

Classified as combustible liquid in containers greater than 119 gallons.

Sea transport

IMDG

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; Combustible Liquid

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

EPCRA 313:

CAS NumberChemical name1344-28-1Aluminum oxide

5124-30-1 4,4'-methylenedicyclohexyl diisoncyanate

68909-79-5 Hematite, chromium green black

State regulations

State RTKCAS NumberChemical nameMA, NJ, PA5124-30-14,4'-methylenedicyclohexyl diisoncyanateNJ98-56-6Benzene, 1-chloro-4-(trifluoromethyl)-MA, NJ, PA13463-67-7Titanium dioxide

MA, NJ, PA 1346-567-7 Hamum dioxide MA, NJ, PA 1344-28-1 Aluminum oxide

NJ, PA 68909-79-5 Hematite, chromium green 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

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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.

MSDS Prepared by:

BASF NA Product Regulations msds@basf.com MSDS Prepared on: 2010/06/16

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