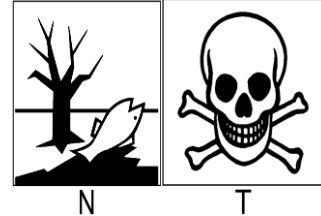


HEALTH & SAFETY DATA SHEET

SAFETY DATA SHEET according to Regulation (EU) No. 907/2006

Part B: Unisects 1130; 1160; 1160MF; 1160MF-25; 11LV; 11LV-25; 11LVEU-25; 11LVEU-30; 11LVMF; 11LV-EU; 1170; 1270; 1275; 2115; 2120; 2160; 2160EU; 2160-15



1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY:

Product Name: Part B: Unisects 1130; 1160; 1160MF; 1160MF-25; 11LV; 11LV-25; 11LVEU-25; 11LVEU-30; 11LVMF; 11LV-U; 1170; 1270; 1275; 2115; 2120; 2160; 2160EU; 2150-15

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2. HAZARDS IDENTIFICATION:

HMIS HEALTH 3, FIRE 1, REACTIVITY 1

Threshold Limit Value : None established, 0,005 ppm is the TWA TLV from ACGIH for isophorone di-isocyanate.

Routes of entry : At room temperature by skin absorption. At high temperature or if the material is atomized, by inhalation and skin absorption.

Signs and Symptoms of Exposure:

Eyes : redness, irritation, tearing, burning sensation.

Skin : rash, redness, itching.

Inhalation : Irritation of the respiratory tract, runny nose, sore throat, coughing and reduction of lung function. Hypersensitivity indicated by asthmatic reaction is possible in some individuals. Once sensitized an individual may react allergically to airborne levels below the exposure limits

Ingestion : Irritation and burning of mouth, throat and stomach.

Medical conditions aggravated by exposure : Dermatitis, asthma, other respiratory ailments or

skin conditions.

Carcinogenicity: this product and its constituents are not listed as carcinogens by IARC, NTP or regulated as carcinogens by OSHA at this time.

WHMIS (Workplace Hazardous Materials Information Service) CANADA

Class D Division 2 Subdivision B TOXIC MATERIAL



Toxic by inhalation.

Irritating to eyes, respiratory system and skin.

May cause sensitization by inhalation and skin contact.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

3. COMPOSITION:

Component	CAS no	%	Exposure limits
isophorone di-isocyanate 3-isocyanatomethyl-3,5,5-trimethylcyclohexylisocyanate	4098-71-9	25 - 35	0,005 ppm
Polyether isophorone diisocyanate prepolymer	Trade secret	65 - 75	n/e

Source of Exposure limit data : (1). USA A.C.G.I.H. TLV(TWA) (2). n/e not established

Hazardous components

isophorone diisocyanate

CAS-No.: 4098-71-9

EINECS-No.: 223-861-6

Index-No.: 615-008-00-5

Classification: T R23 Xi R36/37/38 R42/43 N R51 -R53

4. FIRST AID MEASURES:

General advice: Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

If inhaled: Take the person into the fresh air and keep warm, if there is difficulty in breathing, medical advice should be sort.

In case of skin contact: In the event of contact with the skin, wash with a cleanser plenty of warm water and soap. Consult a doctor in the event of a skin reaction.

In case of eye contact: Hold the eyes open and rinse with lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.

If swallowed: **DO NOT** induce vomiting, seek immediate medical advice.

5. FIRE FIGHTING MEASURES:

Suitable extinguishing media: Carbon dioxide (CO₂), Foam, extinguishing powder, in cases of larger fires, water spray can be used.

Unsuitable extinguishing media: High volume water jet

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. During fire-fighting respirator with independent air-supply and airtight garment is required. Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

6. ACCIDENTAL RELEASE MEASURES.

Personal precautions: Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

Environmental precautions: Do not allow to escape into waterways, wastewater or soil

Methods for cleaning up: Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO₂). Keep damp in a safe ventilated area for several days.

Additional advice: For further disposal measures see section 13.

7. HANDLING AND STORAGE:

Handling

Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed.

In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits (WEL) is not exceeded. The air should be drawn away from the personnel handling the product. The personal protective measures described in section 8 must be observed.

The precautions required in the handling of isocyanates must be taken. Contact with skin and eyes and inhalation of vapors must be avoided under all circumstances.

Storage

Keep container dry and tightly closed in a cool and well ventilated place. Further information on the storage conditions which must be observed to preserve quality can be found in our product information sheet.

VCI storage class (VCI = German Association of the Chemical Industry): 6.1AL

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION:

Components with workplace control parameters

Substance	No. CAS	Basis	type	Value	Ceiling Limit Value	Remarks

isophorone diisocyanate	4098-71-9	TRGS 900		0,005 ppm 0,045 mg/m ³		
isophorone diisocyanate	4098-71-9	TRGS 900	STEL FAC		1	Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW

isophorone diisocyanate	4098-71-9	TRGS 900	STEL CL			Category I: substances for which the localized effect has an assigned
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Respiratory protection:

Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.

In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with the product.

Hand protection:

Suitable materials for safety gloves; EN 374-3:

Nitrile rubber - NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluorinated rubber - FKM: thickness $\geq 0,4\text{mm}$; breakthrough time

$\geq 480\text{min}$. Polyvinyl chloride - PVC: thickness $\geq 0,5\text{mm}$; breakthrough

time $\geq 480\text{min}$. Conditionally suitable materials for protective gloves; EN

374-3: Polychloroprene - CR: thickness $\geq 0,5\text{mm}$; breakthrough time

$\geq 480\text{min}$.

Natural rubber - NR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Recommendation: contaminated gloves should be disposed of.

Eye protection:

Wear eye/face protection.

Skin and body protection:

Wear suitable protective clothing.

Hygiene measures:

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at the end of workday. Keep working clothes separately. Take off all contaminated clothing immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Colour:	Clear, very slightly yellow
Form:	Liquid
Odour:	Pungent
Freezing Point:	ca. -60°C
Boiling Point:	ca 158°C at 13hPa
Density:	ca. 1.08 gm/cm ³ at 25°C (DIN EN ISO2811)
Vapour Pressure:	ca. 0.0012 hPa at 25°C
Saturation Vapour Conc:	3.65 mg/m ³ at 20°C
Viscosity:	200 – 250 cps at 25°C
Miscibility with Water:	Immiscible at 15°C
pH:	Not applicable
Flash Point:	ca. 155°C (DIN EN22719)
Ignition Temperature:	ca. 430°C (DIN 51794)

10. STABILITY AND REACTIVITY:

Hazardous reactions: Exothermic reaction with amines and alcohols; reacts slowly with water forming CO₂, in closed containers risk of bursting owing to increase of pressure.

Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

Thermal decomposition: Polymerises at about 260 °C with evolution of CO₂.

11. TOXICOLOGICAL INFORMATION:

Acute toxicity, oral: Isophorone diisocyanate LD50 rat:4.814 mg/kg

Acute toxicity, dermal: Isophorone diisocyanate LD50 rat: > 2.000 mg/kg Method: OECD Test Guideline 402

Acute toxicity, inhalation: Isophorone diisocyanate LC50 rat: 0,04 mg/l, 4 h. Method: OECD Test Guideline 403 Test substance: as aerosol. Concentration of the saturated vapor of IPDI at 20 °C: 3,65 mg/m³

Primary skin irritation: Isophorone diisocyanate rabbit. Result: severe irritant. Method: OECD Test Guideline 404

Primary mucosae irritation: Isophorone diisocyanate rabbit. Result: irritating. Method: OECD Test Guideline 405

Sensitisation: Isophorone diisocyanate. Skin sensitisation according to Magnusson/Kligmann (maximizing test): guinea pig Result: positive. Method: OECD Test Guideline 406.
Skin sensitisation according to Buehler (epicutaneous test): guinea pig. Result: positive

Genotoxicity in vitro: Isophorone diisocyanate Ames test. Result: negative. Method: OECD Test Guideline 471.
Point mutation in mammalian cells (HPRT test) Result: negative. Method: OECD Test Guideline 476

Additional information:

Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction.

Over-exposure entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible.

Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL).

Prolonged contact with the skin may cause tanning and irritant effects.

12. ECOLOGICAL INFORMATION:

Do not allow to escape into waterways, wastewater or soil.

Biodegradability:

isophorone diisocyanate 0 % 28 d, i.e. not readily degradable

Method: Tested according to Directive 92/69/EEC.

Toxicity to fish: isophorone diisocyanate LC0 \geq 72,3 mg/l

Test species: Brachydanio rerio (zebra fish) Duration of test: 96 h

Method: Tested according to Directive 92/69/EEC.

Acute toxicity for daphnia:

isophorone diisocyanate EC50 35 mg/l

Test species: Daphnia magna (Water flea) Duration of test: 48 h

Method: Tested according to Directive 92/69/EEC.

Acute bacterial toxicity:

isophorone diisocyanate EC50 263 mg/l

Tested on: activated sludge Duration of test: 3 h

Method: EG-RL 88/302/EEC

Acute toxicity for algae: isophorone diisocyanate IC50 > 70 mg/l

Tested on: scenedesmus subspicatus Duration of test: 72h

Method: EG 92/69/EWG

Additional information on ecotoxicology:

The product reacts with water at the interface forming CO₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water soluble solvents. Previous experience shows that polyurea is inert and non-degradable.

13. DISPOSAL CONSIDERATIONS:

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

After final product withdrawal, all residues must be removed from containers (drip-free, powder free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing take back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

14. TRANSPORT INFORMATION:

General: Classified as hazardous under transport regulations. Keep separate from foodstuffs.

UN No.: UN2290
ADR/VLG: 6.1, 19⁰ (c)
ADNR/VBG: 6.1, 19⁰ (c)
RID/VSG: 6.1, 19⁰ (c)
IMO/IMDG: 6.1, 6168, Packing Group III
ICAO/IATA: 6.1, Packing Group III
Product Description: Isophorone Diisocyanate

Limited quantity regulations applicable in accordance with chapter 3.4 RID/ADR in compliance with threshold value.

Other information : Slightly toxic. Irritating to skin and mucous membranes. Irritating to the eyes. Pungent smelling. Keep dry. Avoid heat above 50 °C. Keep separated from foodstuffs.

15. REGULATORY INFORMATION:

Labelling in accordance with Annex I of directive 67/548/EEC and its amendments and adaptations:

T: Toxic
N: Dangerous for the Environment: isophorone diisocyanate
EC-Label:P: EC-No.: 223-861-6

R23 Toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitization by inhalation and skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of soap and water.
S38 In case of insufficient ventilation, wear suitable respiratory equipment .
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61 Avoid release to the environment. Refer to special instructions/ Safety Data Sheets.

National legislation:

Subject to EU Directive 96/82 EC (Seveso II Directive): Annex No. 2

TA Luft List (Germany):

Type: Organic Substances portion Class 1: 100 %

Water contaminating class (Germany):

Class 2 water endangering (pursuant to Annex 2 of the Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes (VwVwS)) Any existing national regulations on the handling of isocyanates must be observed.

Notification status

The substance or the components used in its preparation are registered or exempted from registration in Europe, USA, Australia, Canada, Japan, Korea, Philippines, China, Switzerland

16. OTHER INFORMATION:

Unisect Part B's are designed to be used with Unisect Part A's and the Health & Safety Data for Unisect Part A's should be studied before use of these products.

This Health & Safety Data Sheet has been compiled using data relating to the constituent parts of Unisect Part B's and whilst no synergistic effects are known the existence of these effects cannot be totally excluded.

Full text of R-phrases referred to under sections 2 and 3

R23	Toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R42/43	May cause sensitization by inhalation and skin contact.
R51	Toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric IPDI requires appropriate protective measures.
These products may therefore be used only in industrial or trade applications. They are not suitable for use in DIY applications.

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