

Hardener EL1 • Hardener EL3 • Hardener EL4 • Hardener EL5**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**

Product information

Commercial product name: Hardener EL1 (Prod-# 951, 952, 953)
 Hardener EL3 (Prod-# 956)
 Hardener EL4 (Prod-# 958)
 Hardener EL5 (Prod-# 960)

Company: MultiMetall
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Formulation of isocyanates

Components: Diphenylmethane-4,4'-diisocyanate, Isomers and Homologes
 CAS-Number: 9016-87-9
 Symbol(s): Xn
 R-phrases: 20, 36/37/38, 42
 concentration: < = 95,00%

3. HAZARDS IDENTIFICATION

20 Harmful by inhalation
 36/37/38 Irritating to eyes, respiratory system and skin
 42 May cause sensitization by inhalation

4. FIRST AID MEASURES

General advice: Move out of dangerous area. Victim to lie down in the recovery position, cover and keep him warm. Take off all contaminated clothing immediately. Wash with water and soap as precaution.

Eye contact: Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

Skin contact: If you have skin contact, you must wash off with much water and soap and afterwards you take a cream for your skin. If symptoms persist consult a doctor.

Inhalation: Move to fresh air. Victim to lie down in the recovery position, cover and keep him warm. Consult a physician after significant exposure.

Ingestion: Prevent vomiting if possible. Clean mouth with water and drink afterwards plenty of water. Call a physician immediately.

Notes to physician: Symptoms: cough, shortness of breath, discomfort in the chest
 Risks: Symptoms of poisoning may only appear several hours later

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: water spray, foam, carbon dioxide (CO₂), extinguishing powder
 Extinguishing media which must not be used for safety reasons: High volume water jet
 Protective equipment: Wear personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment.

Additional information: Water mist may be used to cool closed containers. Risk of bursting. Extinguishing water is to be disposed of in accordance with local authority regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Keep people away from and upwind of spill/leak. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.
Environmental precautions:	Do not allow to reach sewage system or water bodies. Do not allow to enter the ground/soil.
Methods for cleaning up:	Soak up with inert absorbent material e.g. sand, silica gel, acid binder, universal binder, sawdust. Sweep up and shovel. Do not keep container sealed.
Additional advice:	Inform fire brigade or police if the product has penetrated into water or into the sewerage if soil or plants have been contaminated.

7. HANDLING AND STORAGE

Safe handling advice:	Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes.
Advice on protection against fire and explosion:	No special precautions necessary if used correctly
Requirements for storage areas and containers:	Keep container tightly closed. Keep in a cool, well-ventilated place.
Advice on common storage:	Never allow product to get in contact with water during storage. Keep away from food, drink and animal feeding stuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information on the lay-out of technical plant:	Ensure adequate ventilation, especially in confined areas.
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Components with workplace control parameters

Components:	Diphenylmethane-4,4'-diisocyanate
CAS-Number:	9016-87-9
Value:	0,005 ml/m ³ , 0,05 mg/m ³
Release notes:	1998
Basis:	TRGS 900

Personal protection equipment

Respiratory protection:	Not required, except in case of aerosol formation. In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection:	PVC or other plastic material gloves
Eye protection:	safety glasses
Skin and body protection:	long sleeved clothing
Hygiene measures:	Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Appearance:	liquid
Colour:	brown
Odour:	typical musty

Other data

Boiling point/range:	> 300°C at 1.013 hPa
Flash point:	approx. 230°C at 1.013 hPa Method: closed cup
Ignition temperature:	approx. 500°C at 1.013 hPa Method: DIN 51794
Upper explosion limit:	no data available
Lower explosion limit:	no data available
Vapour pressure:	at 20°C approx. 0,000006 hPa
Density:	1,22 g/cm ³
Water solubility:	< 0,1 g/l at 20°C at 1.013 hPa
pH-value:	not applicable
Viscosity, dynamic:	25°C 50-300 mPas Method: Brookfield

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if stored and applied as directed.
Hazardous reactions: Exothermic reaction with water, alcohols and amines. Container can be pressurised by carbon dioxide due to reaction with humid air and/or water. Risk of bursting.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: LD50 rat 15000 mg/kg
Acute inhalation toxicity: LD50/inhalation/4h/ rat=rat 490 mg/l
Acute dermal toxicity: LD50 rat > 2000 mg/kg
Skin irritation: rabbit classification: irritating result: mild skin irritation
Eye irritation: rabbit classification: irritant result: eye irritation
Sensitization: May cause sensitization of susceptible persons by inhalation of aerosol or dust.
Additional information: Fish, (Brachydanio rerio) LC0: (96 h) > 1000 mg/l
Human Experience: Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability: Not readily biodegradable
Physico-chemical removability: Most parts can be separated mechanically in a sewage plant. No interference in the degradability of the activated sludge is to be expected in biological clarification plants.

13. DISPOSAL CONSIDERATIONS

Products: Must be incinerated in a suitable incineration plant authorised under the Environmental Protection Act.
Package not cleaned: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

14. TRANSPORT INFORMATION

Land transport: Not restricted article
Sea transport: Not restricted article
Air transport: Not restricted article

15. REGULATORY INFORMATION

Labelling according to EEC Directive

Hazard-determining components of labelling: Diphenylmethane-4,4'-diisocyanate
Symbol(s): Xn Harmful
R-phrases: R 20 Harmful by inhalation
R 36/37/38 Irritating to eyes, respiratory system and skin
R 42 May cause sensitization by inhalation
S-phrases: S 23 Do not breathe vapour
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advise
S 28 In case of contact with skin, rinse immediately with plenty of water and soap, seek medical advise
S 39 In case of insufficient ventilation, wear suitable respiratory equipment
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)
Contains isocyanates. Take notice of supplier's advise

16. OTHER INFORMATION

These information are based on the present state of our knowledge and do therefore not guarantee certain properties. However, it shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual relationship.