

1- COMMERCIAL NAME: POLY-DIE, PART B

According to 91/155/EEC

2- COMPOSITION/INFORMATION ON INGREDIENTS:

Diphenylmethane-4,4'-diisocyanate, isomeres and homoloques
N° CAS : 0901 6-87-9, Harmful (Xn), R 20-36/37/38-42 20% 30%

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Rev: N/C
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3- HAZARDS IDENTIFICATION:

- Harmful by inhalation - possible risk of occupationnal asthma
- irritating to eyes, respiratory system and skin.
- May cause sensitization by inhalation.

4- FIRST AID MEASURES:

Where a serious accident occurs, **seek for medical advice.**

- Change any soiled clothing immediately.
- *In case of eye contact* : open eyelids as far as possible and flush with large quantities of water for at least fifteen minutes. Call a physician, preferably an eye specialist.
- *In case of skin contact*: physically remove the product and wash skin thoroughly with soap and water. Call a physician if skin irritation occurs.
- *In case of swallowing* : do not give the patient anything to drink and do not induce vomiting. Hospitalize the patient immediately. Transport should be by medically equipped ambulance wherever feasible.
- *where massive quantities of produce have been inhaled in aerosol or concentrated vapour forms* : remove patient from affected area. transfer to hospital (to an intensive care unit if necessary) by medically equipped ambulance. While awaiting the arrival of medical help, assist the patient's breathing if this is indicated. Clinical and radiographic monitoring will be required over a prolonged period, since delayed pulmonary oedema may occur.

5- FIRE-FIGHTING MEASURES.

5-1 Fire-extinguisher types -.

- Use : chemical foam, CO2, powder. Where the fire is of major proportions, water spray may also be used. - Do not use :

5-2 Specific fire and explosion risks

- Major overheating of closed product containers may cause product polymerization and breakdown, leading to an internal pressure rise and consequent risk of breaching drum walls.

- Incomplete combustion or pyrolysis mainly produces oxides of carbon, oxides of nitrogen, isocyanate fumes and hydrogen cyanide trace.

5-3 specific protective measures during firefighting

Firefighting personnel should be equipped with insulated, autonomous respiratory protection equipment

6- ACCIDENTAL RELEASE MEASURES: PART B

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6-1 Individual protection :

- Wearing of suitable protective clothing and protective equipment for face/eyes
- In case of insufficient ventilation, wear suitable respiratory equipment.
- Make frequent atmospheric contamination checks (see § 8-1).

6-2 Environmental protection : Please see § 12

6-3 Decontamination procedures :

- Contain spilt material in order to avoid its transfer to sewers or rivers and streams. - Physically remove the material.
- Cover over using an absorbent substance (e.g. sand, sawdust, hydrated calcium silicate based binding agent). After approximately one hour, transfer to suitable drum containers. Do not close these (likelihood of CO₂ production). Cover tops only.
- Leave open to air in a supervised area for 7 to 14 days before transferring to an authorized dumping site
- Neutralize the product using a decontaminating agent (ethanol/water/concentrated ammonia : 50/45/5) or copious quantities of water.

7- HANDLING AND STORAGE -.

7-1 Handling :

- Inform personnel of risks associated with the product, the precautions to be taken and procedures to follow where an accident occurs.
- Observe personal hygiene rules to avoid contact with eyes and skin
- Avoid inhaling vapours produced by the material when heated.
- Install showers and eye baths ("fountain" type).
- Ensure sufficient ventilation, including appropriate local air extraction, in order to comply with workplace exposure limits.
- Wash hands thoroughly at beginning of every work break and at the end of the working day.
- Work stations and the general working area must be kept perfectly clean.
- Make frequent atmospheric contamination checks (see § 8-1).
- Avoid exposure to the material of persons having suffered from eczema or still suffering from any skin condition, wound, cut or irritation.

7-2 Storage :

- Keep the material hermetically sealed in its original packaging, protected from humidity and at a temperature between 15 and 25°C in a well-ventilated storage facility.
- Ensure that the floor of the storage area is impermeable and concave in profile in order to provide effective containment.
- Keep the product away from food.
- Reproduce labelling on all new packs where original packaging is divided.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION :

8-1 Exposure controls :

- Techniques for detection and measurement of Diphenylmethane-4,4'-diisocyanate (4,4'-MDI) in air - instrumentation for continuous monitoring : Sieger-UEI testers
- High Performance Liquid-phase Chromatographie: see NIOSH MANUAL OF ANALYTICAL METHODS, 2e éd., vol. 7, Cincinnati, DHHS (NIOSH), 1981, method 347

8-2 Personal protection :

- health surveillance is appropriate
- respiratory protection : respirator for poorly-ventilated areas or where product is being sprayed.
- gloves: YES (rubber)
- eye protection : YES

Do not mix work clothing and normal clothing. Wash hands thoroughly at beginning of every work break and at the end of the working day

9- PHYSICAL AND CHEMICAL PROPERTIES: PART B

Physical state : liquid

Colour: beige

Odour:

pH: NA

Flash point (PENSKY-MARTENS) > 110 °C

Decomposition temperature : from 260°C approx. (polymerisation and emanation of CO₂)

Self ignition temperature (DIN 51 794) : > 400 °C

Specific gravity 1680 kg/m³ approx.

Solubility - in water : at 20°C : insoluble (react with water)

- in solvents : YES (soluble in many organic solvents : benzene hydrocarbons and chlorinated hydrocarbons, acetone, phtalates, ...)

10- STABILITY AND REACTIVITY

10-1 Dangerous decomposition by-products :

These are non-existent if storage and handling rules are followed (please see also § 5-2).

10-2 Hazardous reactions with -.

Exothermic reaction with products containing active hydrogen (especially acids, alcohols, bases such as soda, ammonia or amines) in the presence of water or humidity. Gas is produced (CO₂) and/or uncontrolled polymerization, possibly leading to internal pressure rises and consequent risk of container breach.

11 - TOXICOLOGICAL INFORMATION :

Effects on eyes: causes lachrymation, burns and extreme irritation to the cornea.

Effects on skin : irritates and darkens skin, although systemic toxicity is low. Skin sensitization is unlikely unless exposure is repeated or prolonged.

Over-exposure to the produce (especially where spraying is carried out wwithout safety precautions) : a concentration-dependent irritation to eyes, nose, throat and respiratory tract. Delayed occurrence of nausea and allergic reactions (respiratory difficulty, cough, asthma) is possible. In predisposed subjects these symptoms may appear after exposure to minimal concentrations of MDI, even where this value is below the 4,4'-MDI threshold limit value (see § 16).

Effects on ingestion : low toxicity for a single oral dose.

Diphenylmethane-4,4'-diisocyanate (4,4'-MDI) (Cas No :09016-87-9)

- Acute oral toxicity in rats : LD₅₀ > 15 g/kg

- Acute inhalation toxicity in rats : LC₅₀ = 370 mg approx. of aerosollm³ in air (4 h exposure)

- Saturated vapour concentration of 4,4'-MDI at 25°C : 0.09 mg/m³

12- ECOLOGICAL INFORMATION -

This product is not miscible in water. It acts on water, producing CO₂ and polyurea (a solid, non-fusible and insoluble compound) which is, to the best of our knowledge, inert and non-biodegradable. This reaction is promoted by the presence of surfactants such as liquide soap, or water-soluble solvents. Do not dispose of this product or the neutralization products in sewers, rivers or streamns. Do not dump incompletely drained drums containing product which has not been neutralized (see § 6.3 and 13). Ensure that ali labels are removed after decontaminating drums.

Diphenylmethane-4,4'-diisocyanate (Cas No : 09016-87-9)

- LC₅₀ (Poisson Zebra) > 1 000 mg/i

- EC₅₀ (Daphnia magna) > 1000 mq/i

- EC₅₀ (E. Coli) > 100 mq/i

13- DISPOSAL CONSIDERATIONS : PART B

Dispose of the product by burning in a suitable incinerator or bury in an approved landfill following all applicable local and/or national regulations.
Empty containers may not be disposed of unless any remaining material adhering to the internal walls has been removed (see § 6-3).

14- TRANSPORT INFORMATION:

Not covered by official regulations No dangerous for transport.
Irritating to skin and mucous membranes Keep away from moisture
Keep away from food, acids and bases.

15- REGULATORY INFORMATION:

labelling : EEC-Directive No 67/548/CEE
N° CAS: 09016-87-9, Symbol: Xn (Harmful)
Diphenylmethane-4,4'-diisocyanate, isomeres and homologues Nature of risks, R-phrases : 20-36/37/38-42
Safety advice, S-phrases : 26-28(water + soap)-38-45
Contains isocyanate. see the information provided by the manufacturer.
Please refer to any other national measures or regulations that may be relevant to the product.

16- OTHER INFORMATION:

Limit value for exposure to MDI in workplace ambient (05/87-France)
- V.M.E. : 0.01 ppm, which is 0.1 mg/m³ (Limit value for average exposure - 8 hours per day) - V.L.E. : 0.02 ppm, which is 0.2 mg/m³ (Short term exposure limit value - 5 minutes) **REVEALING MODIFICATION :**

Revised: 13-04-99

Supersedes sheet: 05-05-95

This sheet provides a complement to the product use instructions but does not replace them. The information it contains is based on our current knowledge of the product concerned at the date of drafting. That information is given in good faith and does not in any circumstances remove from the user his duty to be aware of and to follow all legal regulations and statutes covering his activities. The user takes sole responsibility for application of safety measures covering the use of the product he is aware of. We also draw the users attention to the risks attached to any use of the product for applications for which it was not designed. 11/95