



Material Safety Data Sheet

1. Product name/ Company profile

MARISEAL 710
Polyurethane Primer

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2. Composition/information on ingredients

Aromatic polyisocyanate prepolymer
Approx. in 50% xylene/ethyl acetate

Diphenylmethanediisocyanate,
Isomers and homologues
CAS No: 9016-87-9

weight %: 31,5
hazard symbol: Xn
R phrases: 20,36/37/38,42

Xylene
CAS No: 1330-20-7

weight %: 37,5
hazard symbol: Xn
R phrases: ,

Threshold concentration for hazard symbol Xn = from 12,5 %

Ethyleacetate
CAS No: 141-78-6

weight %: 12,5
hazard symbol: F, Xi
R phrases: 11-36-66-67

Threshold concentration for hazard symbol Xi = from 20 %

3. Hazards Identification

Flammable. Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation. For their own protection, persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferer) should avoid handling this product.

4. First Aid measures

General: Take off immediately all contaminated clothing.

Inhalation: If aerosol or vapour is inhaled in high concentrations, take the person into the fresh air and keep him warm, let him rest: if there is difficulty in breathing, medical advice is required.

Peratikos

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Skin contact: After contact with skin, wash immediately with plenty of water and soap.

Eye contact: Contamination of the eyes must be treated by thorough irrigation with water, with the eyelids open. A doctor should be consulted immediately.

Swallowing: DO NOT induce the patient to vomit, seek medical advice.

5. Fire fighting measures

Extinguishing media: CO₂, foam, dry powder, in cases of larger fires, water spray should be used.

Further information: In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapour, and traces of hydrogen cyanide is possible. Fire men have to wear self-containing breather apparatus.

6. Accidental release measures

Put on protective equipment. Cover with damp, fluid-binding material (sand, sawdust, chemical binder based on calcium silicate hydrate). Transfer to waste container after approx. 1 hour and do not seal (CO₂ formation). Keep damp and in the open air in a safe place for 7 to 14 days. Waste should be disposed of as described in "Advice on Disposal".

7. Handling and Storage

Storage: Keep container tightly closed and dry. Avoid exposure to temperatures above 50 °C and below 5 °C. Keep away from foodstuffs, drinks and tobacco.

Water pollution class (WGK): 1 - slightly hazardous to water.

WGK = Classification in accordance with the German Water Resources Act.

Handling: Observe the usual precautionary measures for chemicals. Avoid contact with skin. Ensure efficient ventilation if product is heated. Precautions should generally be taken against electrostatic charges according to the equipment used and the way the product is handled and packed. In all areas where products, like aerosols and/or vapour concentrations, are produced, exhaust ventilation must be provided in such a way that the DEL is not exceeded. The air should be drawn away from the personnel handling the product, and the efficiency of the exhaust equipment should be periodically checked.

Explosion protection not required.

8. Exposure Controls/Personal Protection

For technical protective measures to limit exposure see also "Handling and storage".

Respiratory protection: Unless the product is entirely enclosed, do not handle it until you have studied the respiratory precautions issued by the appropriate authority or accident prevention association. Full mask with filter A2-P2 is recommended.

Hand protection: protective gloves for chemicals made out of PVC.

Eye protection: Goggles/face protection.

Keep working clothes separate. Wash hands before breaks and at end of work.

9. Physical and chemical properties

Form	liquid		
Colour:	yellow		
Setting point:	<0°C		
Density:	1,1 gr/cm ³	at 20°C	DIN 51757



Viscosity: 78 mPa.s at 25°C
Solubility in water: insoluble, reacts as described in paragraph 10.
Flash point: above 25 °C DIN 51758
Explosion limits: limits not determined.

10. Stability and reactivity

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

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

Hazardous reactions: Exothermic reaction with amines and alcohol's; reacts with water forming CO², in closed containers of bursting owing to increase of pressure

11. Toxicological information*)

LD₅₀ oral, rat: >15000mg/kg

LD₅₀ inhalation, rat: 370 mg as aerosol/m³, 4h of exposure.

Concentration of the saturated vapour of 4,4' MDI at 25 °C: 0,09 mg/m³.

In a long term inhalation study , rats were exposed over a period of two weeks to mechanically generated respirable aerosols (aerodynamic diameter 95% less than 5 µm) of polymeric MDI (PMDI) in concentrations of 0,2 , 1,0 and 6,0 mg PMDI/m³. The group of animals exposed to the highest concentration suffered an increased incidence of lung tumour, persistent inflammatory changes to the nose, respiratory tract and lungs, and yellowish deposits in the respiratory tract and lungs. The animals in the 1,0 mg/m³ group exhibit slight irritation and inflammatory changes to the nose, respiratory tract and lungs, but did not develop tumours and / or deposits. Animals in the 0,2 mg/m³ group suffered no irritation; this concentration was therefore deemed to constitute the "no effect level".

Effects on the eyes: Causes slight temporary reddening and swelling of the conjunctiva and slight reversible clouding of the cornea.

Effects on the skin: In case of longer contact with skin, tanning and irritating effects are possible.

Effect on the respiratory organs: Aerosol/Vapour concentrations at over twice the Occupational Exposure Limit (OEL) cause Irritation of the mucous membranes in the nose, throat and lungs, dryness of the throat, pressure on the chest, sometimes accompanied by breathing difficulties and headaches. Delayed appearance of the symptoms and allergic reaction in susceptible persons possible.

*) All toxicological studies conducted on the used raw material (31,5% by weight of product MARISEAL 770)

12. Ecological information

Immiscible in water. Reacts with water at the interface producing CO₂ and forming a solid and insoluble product with high meltingpoint (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

Disposal: See the German Waste and Residue Management Regulations.

Product Waste: Incinerate in a hazardous waste incinerator in accordance with the regulation.

In accordance with EU directives



Emptied Containers: May be reconditioned or turned into scrap after the contents have been completely removed, any residue adhering to the walls neutralised and the labels removed.

14. Transport information:

Road/Rail

ADR / RID: Class No.: 3.2 UN No:1307 Xn Kemler Number: 30

Inland Navigator

AND / ADNR: Class No: 3.2 Category : N

Maritime Transport IMO

Class No: 3.2 UN No: 1307 Packing Group: III Hazard Symbol: Xn

Marine Pollutant: No

Air Transport ICAO/IATA

Class No: 3.2 UN No: 1307 Packing Group: III Hazard Symbol: Xn

Avoid heat above +50 °C. Keep dry. Keep away from food stuffs, acids and alkalis.

15. Regulatory information

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

Symbol: F, Xn. hazard description: Flammable, harmful.

Contains isocyanates. See information supplied by the manufacturer.

Contains Xylol / Ethyl acetate

R10: Flammable.

R20: Harmful by inhalation.

R36/37/38: Irritating to eyes, respiratory system and skin.

R42: May cause sensitisation by inhalation.

S26: In case of contact with eyes, wash immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of water and soap.

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 this label where possible)

Protection of workers:

TRGS 900 MAK value, diphenylmethane-4,4'diisocyanate 0,005 ml/m³ (ppm)=0,05 mg/m³(S)

Peak concentration limit accordance to category I

TRGS 500 : classified MAK-group K: III B: diphenylmethane-4,4'diisocyanate (in form of breathable aerosols)

Occupational exposure Limits, OEL's, are subject to national regulations and have been set in most countries, the common value being 5 ppb. It is recommended to check the concentration at regular intervals.

Aromatic hydrocarbons, such as xylene, irritate the skin and mucous membranes.

Council Directive 82/501/EEC of 24 June 1982 on the major accident hazards of certain industrial activities as amended by the council Directives 87/216/EEC of 19 March 1987 and 88/610/EEC of 24 November 1988. Diphenylmethanediisocyanate (MDI), Appendix II, Part 1 No. 27

In accordance with EU directives



Technical instruction on air pollution control: Class I, Mass concentration of 20 mg/m³ and below at a mass flow rate of 0,1 kg/h and above.

Not subject to the German Regulation on Flammable Liquids (VbF).

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products properties.

16. Other information

Date of issue: 01.06.2005. This material safety data sheet cancels any previous.

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