Health & Safety Sheet SL Cast 80-ISO

Reviewed on 23.01.2004

1 Identification of substance

Product details
Trade name: **SL Cast 80 Iso**

Distributor:
Sensor Line GmbH
Carl-Poellath Straße 19
86529 Schrobenhausen
Germany
Tel.: +49-8252-8943-0
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Informing department: Product department
Emergency information:
During normal opening times: Product department
Telephone +49-8252-8943-20

2 Composition/Data on components:

Chemical characterization
Description: diphenylmethanediisocyanate / isomers and homologues
Dangerous components:

CAS NO.	Designation	Index	R-phrases
000101-68-8	Diphenylmethanediisocyanate isomers/homologues	Xn	36/37/38-20-42/43

3 Hazards identification

Hazard designation: **Information pertaining to particular dangers for man and environment**

Xn

R 36/37/38 Irritating to eyes, respiratory system and skin.
R 20 Harmful by inhalation.
R 42/43 May cause sensitisation by inhalation and skin contact.

Additional information:
For their own protection, persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product.

4 First aid measures

General information
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness bring patient into stable side position for transport.
After skin contact
Instantly wash with water and soap and rinse thoroughly for several minutes. Consult doctor if irritation persists.
After eye contact
Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult doctor.
After swallowing
DO NOT induce the patient to vomit. In case of persistent symptoms consult doctor.

5 Fire fighting measures

Suitable extinguishing agents
CO_2, extinguishing powder, halones. In case of larger fires, water spray should be used.
For safety reasons unsuitable extinguishing agents
Water with a full water jet.
Special hazards caused by the material, its products of combustion or flue gases:
In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapour and traces of hydrogen cyanide is possible. Firemen have to wear self-contained breathing apparatus.
Protective equipment: Put on breathing apparatus.

6 Accidental release measures

Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
Measures for environmental protection:
Prevent material from reaching sewage system, holes and cellars.
Measures for cleaning/collecting:
Absorb with fluid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13.Transfer to waste container after approx. 1 hour. Keep damp in the open air in a safe place (CO_2-formation!) for a few days; the waste can than be disposed of on approved landfill or a special refuse dump. Ensure adequate ventilation.

7 Handling and storage

Handling
Information for safe handling:
Keep containers tightly closed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Exhaust ventilation required during spraying or at raw material temperatures above 30°C.
Storage
Requirements to be met by store rooms and containers:
Keep container tightly closed and dry. Avoid product temperatures above +50°C and below 0°C. Keep away from foodstuffs and drinks.

Information about storage in one common storage facility: Not required.
Further information about storage conditions:
Storage class
Water hazard class (KBwS): 1 - slightly hazardous to water (KBwS).

8 Exposure controls and personal protection

Additional information about design of technical systems:
No further data; see item 15.

Components with critical values that require monitoring at the workplace:

CAS No.	Designation of material	%	Type	Value	Unit
000101-68-8	MDI	-	MAK	0,005	ppm

Personal protective equipment
General protective and hygienic measures:
Keep away from acids, alcali and oxidants.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Breathing equipment:
In case of brief exposure or low pollution use breathing filter apparatus (German type A2-P2). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
Protection of hands: Protective gloves.
Eye protection: Tightly sealed safety glasses.
Body protection: Wear suitable protective clothing.

9 Physical and chemical properties:

Form:	liquid
Colour:	clear pale yellow
Smell:	earthy, musty

Change in condition		**Value/Range**	**Unit**	**Method**
Setting point:		< 0	°C	
Boiling point/Boiling range:		Not determined		
Flash point		> 200	°C	DIN 51755
Ignition temperature:		> 400	°C	
Self-inflammability:	Product is not selfigniting			
Danger of explosion:				
Steam pressure:	at 20°C	< 0,00001	mbar	
Density	at 20°C	1.20	g/cm^3	DIN 53217
Solubility in / Miscibility with water:	at 20°C	unsol., reacts	g/l	
Viscosity:	at 20°C	300	mPas	DIN 53018/1+2

10 Stability and reactivity

Dangerous products of composition:
No dangerous decomposition products when stored and handled correctly.
Additional information:
Hazardous reactions: Exothermic reaction with amines and alcohols; reacts with water forming CO_2, in closed containers risk of bursting owing to increase of pressure.

11 Toxicological information

Acute toxicity:
LD 50 /LC 50 values that are relevant for classification:

Components	Type	Species	Value
MDI	LD 50, oral	rat	> 15000 mg/kg
	LC 50, inhalation	rat	inhalation, 370 mg as aerosol/m^3, 4 h of exposure.

Skin and mucous membrane compatibility, rabbit:
Skin 4 hours exposure - slight reddening for a short time
Eyes - moderate reddening

Specific symptoms in biological assay:
In a long-term inhalation study, rats were exposed over a period of 2 years 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 tumors, 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 exhibited slight irritation and , inflammatory changes to the nose, respiratory tract and lungs, but did not develop lung tumors 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”.

Primary irritant effect:
On the skin: Irritant for skin and mucous membranes.
On the eye: Lacrimation, burning, considerable irritation of the outer eye.
Respiration System (aerosol, vapour in high concentration):
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.
Sensitisation: Sensitisation possible by inhalation and skin contact.
Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Harmful

12 Ecological information:

General notes:
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil. Reacts with water at the interface producing CO_2 and forming a solid and 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

Recommendation
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Uncleaned packagings:
Empty containers may only be disposed of after neutralizing any product remaining on the walls of the containers with a mixture of isopropanol, ammonia and water and removal of the warning labels.
Recommendation:
Disposal must be made according to official regulations.

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)

ADR/RID-GGVS/E Class:	none
Number/Letter:	none
UN-Number:	none
Designation of goods:	none
Inland shipping ADN/ADR:	none
ADN/R Class:	none
Number/Letter:	none
Category:	none
Maritime transport IMDG/GGVSea:	none
IMDG/GGVSea Class:	none

Page:	none
UN Number:	none
EMS Number:	none
MFAG:	none
Air transport ICAO-TI and IATA-DGR:	none
ICAO/IATA Class:	none
UN/ID Number:	none
Packaging group:	none

Remarks:
No dangerous cargo. Keep away from foodstuffs and drinks. Avoid product temperatures above +50°C and below 0°C. Keep away from acids, alcali and oxidants.

15 Regulatory information

Classification/Labelling regulations:
Designation according to EC guidelines:
Labelling in accordance with Annex I of directive 67/548/EECand its amendments and adaptations:
Code letter and hazard designation of product: Xn, Harmful
Contains: Diphenylmethanediisocyanate, isomeres (homologues)
Risk phrases:

R 20	Harmful by inhalation.
R 36/37/38	Irritation to eyes, respiratory system and skin.
R 42/43	May cause sensitisation by inhalation and skin contact.

Safety phrases:

S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28	After contact with skin, wash immediately with plenty of water and soap.
S 38	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 the label where possible).

National regulations

Classification according to VbF:

German Regulation on Flammable Liquids (VbF) according to § 2.4 not applicable.

Other regulations, limitations and prohibitive regulations

German MAK-values (TRgS 900):

- MDI: 0,005 ppm (ml/m^3) corresp. to 0,05 mg/m^3 (eight hours average value)
  Peak concentration limit according to Category I

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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