



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name Hyloseal 620
Version # 01
Issue date 24-July-2013
Revision date -
Supersedes date -
CAS # Mixture
MSDS Number 38
Product use Semi-hardening gasketing/sealing compound.
Manufacturer information
Manufacturer: Hylomar Ltd.
Address: Hylo House, Cale Lane, New Springs,
Wigan, Greater Manchester,
UK, WN2 1JT
Telephone number: +44(0)1942 617000
E-mail address: info@hylomar.co.uk
Contact person: Technical Department
Emergency telephone: 1.866.519.4752 (USA, Canada, Mexico)
1-760-476-3962
Access code: 333544

2. Hazards Identification

Physical state Liquid.
Appearance Viscous liquid.
Emergency overview DANGER
Causes severe skin and eye burns. May cause respiratory tract irritation.
OSHA regulatory status This product is hazardous according to OSHA 29 CFR 1910.1200.
Potential health effects
Routes of exposure Eye contact. Skin contact. Ingestion. Inhalation.
Eyes Causes severe eye burns.
Skin Causes severe skin burns.
Inhalation May cause respiratory tract irritation.
Ingestion May be harmful if swallowed.
Target organs Eyes. Skin Digestive tract. Respiratory system.
Signs and symptoms Causes burns. Extreme irritation of eyes and mucous membranes, including burning and tearing.
Potential environmental effects Harmful to aquatic life with long lasting effects.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	10
Caprolactam	105-60-2	< 5
3-Glycidoxypropyltrimethoxysilane	2530-83-8	1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. If irritation persists: Continue flushing during transport to hospital. Take along these instructions.
Skin contact	Immediately take off all contaminated clothing. Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse. Get immediate medical attention.
Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion	Rinse mouth. Drink a few glasses of water or milk. Get immediate medical attention.
Notes to physician	Provide general supportive measures and treat symptomatically.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties	The product is not flammable.
Extinguishing media	
Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Protection of firefighters	
Specific hazards arising from the chemical	By heating and fire, toxic vapors/gases may be formed.
Protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental Release Measures

Personal precautions	Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this MSDS. In case of spills, beware of slippery floors and surfaces.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not discharge into drains, water courses or onto the ground.
Methods for cleaning up	Scrape up the spilled material. Transfer to a container for disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Wash thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
Storage	Keep away from heat, spark, open flames and other sources of ignition. Keep container tightly closed in a cool, well-ventilated place. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Caprolactam (CAS 105-60-2)	TWA	5 mg/m ³	Inhalable fraction and vapor.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Caprolactam (CAS 105-60-2)	TWA	5 mg/m ³

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Caprolactam (CAS 105-60-2)	STEL	3 mg/m ³	Dust.
	TWA	1 mg/m ³	Dust.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Caprolactam (CAS 105-60-2)	TWA	5 mg/m ³	Inhalable fraction and vapor.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Caprolactam (CAS 105-60-2)	STEL	46 mg/m ³	Vapor.
		3 mg/m ³	Dust.
	TWA	10 ppm	Vapor.
		23 mg/m ³	Vapor.
		1 mg/m ³	Dust.
		5 ppm	Vapor.

Mexico. Occupational Exposure Limit Values

Components	Type	Value	Form
Caprolactam (CAS 105-60-2)	STEL	40 mg/m ³	Vapor.
		3 mg/m ³	Dust.
	TWA	10 ppm	Vapor.
		20 mg/m ³	Vapor.
		1 mg/m ³	Dust.
		5 ppm	Vapor.

Exposure guidelines	Follow standard monitoring procedures.
Engineering controls	Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of exposure.
Personal protective equipment	
Eye / face protection	Wear approved safety glasses or goggles.
Skin protection	Wear protective gloves. Neoprene or nitrile gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier. Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Under normal conditions, respirator is not normally required. When engineering controls are not sufficient to lower exposure levels below the applicable exposure limit, use a NIOSH approved respirator.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Viscous liquid.
Physical state	Liquid.
Form	Liquid.
Color	Light blue.
Odor	Mild.
Odor threshold	Not available.

pH	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	Not available.
Solubility (water)	Insoluble in water.
Specific gravity	1.05 (20 °C)
Flash point	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Evaporation rate	Not available.
Viscosity	20000 mPa·s (20 °C)

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	In case of fire: Carbon monoxide. Carbon dioxide. Silicon oxides. Nitrogen oxides.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Caprolactam (CAS 105-60-2)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	8.16 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	1475 mg/kg
Sensitization	No sensitizing effects known.	
Local effects	Causes skin and eye burns. May cause respiratory tract irritation.	
Carcinogenicity	Not classified.	
ACGIH Carcinogens		
Caprolactam (CAS 105-60-2)	A5 Not suspected as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Caprolactam (CAS 105-60-2)	4 Probably not carcinogenic to humans.	
Mutagenicity	Not classified.	
Reproductive effects	Not classified.	
Symptoms and target organs	Causes severe skin burns and eye damage.	
Further information	No other specific acute or chronic health impact noted.	

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results	
Caprolactam (CAS 105-60-2)			
Aquatic			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 1000 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	> 1000 mg/l, 48 hours
Fish	LC50	Salmo gairdneri	707.1 mg/l, 96 hours
Ecotoxicity	Harmful to aquatic life with long lasting effects.		
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.		
Aquatic toxicity	Not classified.		
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulation / Accumulation	Not available.		
Partition coefficient	Caprolactam (CAS 105-60-2) 0.12		
Mobility in environmental media	The product is insoluble in water.		

13. Disposal Considerations

Waste codes	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal instructions	Do not discharge into drains, water courses or onto the ground. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1760
Proper shipping name	Corrosive liquids, n.o.s. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))
Hazard class	8
Packing group	II
Environmental hazards	
Marine pollutant	No

Additional information:

Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))
Transport hazard class(es)	8
Packing group	II
Environmental hazards	No
Labels required	8
ERG code	8L

IMDG

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))
Transport hazard class(es)	8

Packing group II
Environmental hazards
Marine pollutant No
Labels required 8
EmS F-A, S-B

TDG

UN number UN1760
Proper shipping name CORROSIVE LIQUID, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))
Hazard class 8
Packing group II
Marine pollutant D
Special provisions 16
Labels required 8

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A) No

SARA 311/312 Hazardous chemical Yes

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status Controlled

WHMIS classification D1A - Immediate/Serious-VERY TOXIC
 D2B - Other Toxic Effects-TOXIC
 E - Corrosive

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations This product does not contain a chemical known to the State of California to cause cancer birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Caprolactam (CAS 105-60-2) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - New Jersey RTK - Substances: Listed substance

Caprolactam (CAS 105-60-2) Listed.

US. Massachusetts RTK - Substance List

Caprolactam (CAS 105-60-2) Listed.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Caprolactam (CAS 105-60-2) Listed.

Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

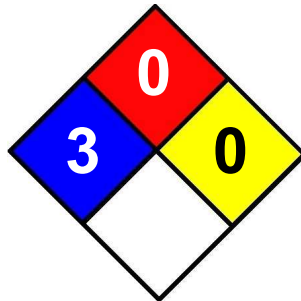
16. Other Information

Recommended restrictions Use in accordance with supplier's recommendations.

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
 Health: 3
 Flammability: 0
 Physical hazard: 0

NFPA Ratings



Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.