

## 1. Identification

**Product identifier** Hylomar Tilebond 402 Part A Hardener

**Other means of identification**  
**SDS number** 26

**Recommended use** Epoxy adhesive.

**Recommended restrictions** Uses other than the recommended use.

**Manufacturer/Importer/Supplier/Distributor 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

**Supplier:** Hylomar LLC

**Address:** 158 JJ Lane, Center Point  
Texas, 78010

**Office number:** +1.830.634.2603

**Cell number:** +1.830.377.0525

**Emergency telephone:** 1.866.519.4752 (USA, Canada, Mexico)  
1-760-476-3962  
Access code: 333544

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1
Sensitization, skin	Category 1
Specific target organ toxicity, repeated exposure	Category 2 (gastro-intestinal tract, immune system, liver)

**Environmental hazards**

Hazardous to the aquatic environment, acute hazard	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 1

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to organs (gastro-intestinal tract, immune system, liver) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

**Precautionary statement**  
**Prevention** Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Collect spillage.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Phenol, styrenated	61788-44-1	20 - 50
2,2,4-trimethylhexane-1,6-diamine	25513-64-8	1 - 10
2,4,6-tris(dimethylaminomethyl)phe nol	90-72-2	1 - 10
Amines, Coco Alkyl	61788-46-3	1 - < 10
Titanium dioxide	13463-67-7	0.58

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits. The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dermatitis. Jaundice. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	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. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed. Combustion products may include: Carbon oxides. Nitrogen oxides.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

### Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	2.5 mg/m <sup>3</sup>	Respirable finescale particles
		0.2 mg/m <sup>3</sup>	Respirable nanoscale particles

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. Viton or nitrile rubber gloves are recommended. Other suitable gloves can be recommended by the glove supplier. Frequent change is advisable.

<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Viton or nitrile rubber gloves are recommended.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapor cartridge and full facepiece. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	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. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Paste.
<b>Color</b>	Off-white.
<b>Odor</b>	Amine.
<b>Odor threshold</b>	Not available.
<b>pH</b>	11
<b>Melting point/freezing point</b>	Not determined.
<b>Initial boiling point and boiling range</b>	Not determined.
<b>Flash point</b>	248 °F (120 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not determined.
<b>Explosive limit - upper (%)</b>	Not determined.
<b>Vapor pressure</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Relative density</b>	1.04 (Water = 1) (77 °F (25 °C))
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable, product is a mixture.
<b>Auto-ignition temperature</b>	Not determined.
<b>Decomposition temperature</b>	Not determined.
<b>Viscosity</b>	100000 cSt (77 °F (25 °C))
<b>Other information</b>	
<b>Kinematic viscosity</b>	Not determined.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Heat. Freezing.
<b>Incompatible materials</b>	Peroxides. Phenols. Strong oxidizing agents. Strong acids. Strong bases.
<b>Hazardous decomposition products</b>	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the mucous membranes and upper respiratory tract. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes severe skin burns. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns.

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dermatitis. Jaundice.

### Information on toxicological effects

**Acute toxicity** May be harmful if swallowed.

Components	Species	Test Results
2,2,4-trimethylhexane-1,6-diamine (CAS 25513-64-8)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	910 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol (CAS 90-72-2)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	2169 mg/kg
Amines, Coco Alkyl (CAS 61788-46-3)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	1300 mg/kg
Phenol, styrenated (CAS 61788-44-1)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rat	> 2000 mg/kg
<b>Oral</b>		
LD50	Rat	> 2000 mg/kg
Titanium dioxide (CAS 13463-67-7)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	3.43 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg
<b>Skin corrosion/irritation</b>	Causes severe skin burns.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	May cause an allergic skin reaction.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure. Titanium dioxide is considered carcinogenic only when in an inhalable powdered form.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.	
<b>NTP Report on Carcinogens</b>		
Not listed.		

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs (gastro-intestinal tract, immune system, liver) through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not likely, due to the form of the product.
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects.

**12. Ecological information****Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
2,2,4-trimethylhexane-1,6-diamine (CAS 25513-64-8)			
<b>Aquatic</b>			
Algae	EC50	Algae (Scenedesmus)	29.5 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	31.5 mg/l, 24 hours
Fish	LC50	Leuciscus idus	174 mg/l, 48 hours
<b>Other</b>			
Bacteria	EC50	Pseudomonas putida	89 mg/l, 17 hours
2,4,6-tris(dimethylaminomethyl)phenol (CAS 90-72-2)			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Freshwater algae	84 mg/l
Crustacea	LC50	Palaemonetes vulgaris	718 mg/l, 96 hours
Fish	LC50	Freshwater fish	175 mg/l
<i>Chronic</i>			
Other	NOEC	Activated sludge	2 mg/l, 28 days
Phenol, styrenated (CAS 61788-44-1)			
<b>Aquatic</b>			
Algae	EL50	Algae (Chollera vulgaris)	20.42 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	4.6 mg/l, 48 hours
	NOEC	Daphnia magna	0.2 mg/l, 21 days
Fish	LC50	Fish	1.77 mg/l, 96 hours
	NOEC	Fish	1.9 mg/l, 14 days
Titanium dioxide (CAS 13463-67-7)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
Fish	LL50	Oryzias latipes	> 100 mg/l, 96 Hours

**Persistence and degradability** The product is not expected to be readily biodegradable.**Bioaccumulative potential** No data available for this product.**Mobility in soil** No data available.**Other adverse effects** None known.**13. Disposal considerations****Disposal instructions** Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.**Local disposal regulations** Dispose in accordance with all applicable regulations.

<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN2735
<b>UN proper shipping name</b>	Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s.
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	B2, IB2, T11, TP1, TP27
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN2735
<b>UN proper shipping name</b>	Amines, liquid, corrosive, n.o.s. (Amines, coco alkyl, Trimethylhexane-1,6-diamine)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	8L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN2735
<b>UN proper shipping name</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (Amines, coco alkyl, Trimethylhexane-1,6-diamine)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** This substance/mixture is not intended to be transported in bulk.

**General information** IMDG Regulated Marine Pollutant.

## 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.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Toxic Substances Control Act (TSCA)**

One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

Yes

**Classified hazard categories**

Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Respiratory or skin sensitization  
 Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Not regulated.

**US state regulations****US. Massachusetts RTK - Substance List**

Titanium dioxide (CAS 13463-67-7)

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

2,2,4-trimethylhexane-1,6-diamine (CAS 25513-64-8)

Titanium dioxide (CAS 13463-67-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Titanium dioxide (CAS 13463-67-7)

**US. Rhode Island RTK**

Titanium dioxide (CAS 13463-67-7)

**California Proposition 65**

**WARNING:** This product can expose you to Titanium dioxide, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Titanium dioxide (CAS 13463-67-7)

Listed: September 2, 2011

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Titanium dioxide (CAS 13463-67-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply 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).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	01-June-2023
<b>Revision date</b>	-
<b>Version #</b>	01
<b>Further information</b>	HMIS® is a registered trade and service mark of the NPCA.
<b>HMIS® ratings</b>	Health: 3* Flammability: 0 Physical hazard: 0
<b>References</b>	ACGIH ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices EPA: AQUIRE database HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens NLM: Hazardous Substances Data Base ECHA CHEM
<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available.