



LEGEND

SAFETY DATA SHEET.

13th January 2023
Version 1
SDS002Rev1Date130123

1 Identification of substance/preparation and company

Product names

Type PU20 (Component B: Hardener)

Product range where it is a component

GAM80	GTA0
GAM170	GTA1
GAM250	GTA2
GAM370	GTA3
GAM470	GTA4
GAM800	GTA5
GAM1200	GTA6
GAM1800	GTA7

Other product names

Cast Resin Type GAs

Recommended Use

Hardener for use with Component A: Resin for Low Voltage Cable Joints

Supplier:

Legend
8 Distribution Place
Seven Hills. NSW. 2125

Emergency Phone Number

02 96785130

2 Hazards Identification

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P280 Wear protective gloves/eye protection/face protection.
P285 In case of inadequate ventilation wear respiratory protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to waste disposal.

Hazardous components which must be listed on the label Polymethane Polyphenol Isocyanate isomers and homologues Identification no.: 9016-87-9

Other hazards

Persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product. Symptoms affecting the respiratory tract can also occur several hours after overexposure. Dust, vapors and aerosols are the primary risk to the respiratory tract.

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]:

Acute toxicity, Inchoative, Category 4 (H332) Eye irritation, Category 2 (H319)

Skin irritation, Category 2 (H315)

Specific target organ toxicity (single exposure), inchoative, Category 3 (H335) Sensitization of the skin, Category 1 (H317)

Sensitization of the respiratory airways, Category 1 (H334) Carcinogenicity, Category 2 (H351)

Specific target organ toxicity (repeated exposure), inchoative, Category 2 (H373)

Classification according to Directive 67/548/EEC [DSD]

Carc. Cat. 3: Substances which cause concern for humans, owing to possible carcinogenic effects but in respect of which the available information is not adequate for making a satisfactory assessment.

Other hazards

Other hazards : Not applicable.

Substance meets the criteria for PBT according to Regulation (EC) No. 1207/2006, Annex XIII

Substance : Not applicable.
meets the criteria for vPvB according to Regulation (EC) No. 1207/2006, Annex XIII

Other hazards : Not applicable.
which do not result in classification.

3 Ingredients

Substances CAS-No.	Basic substances name	Portion (from - to) [%]
39362-51-1	Oxirane, methyl-, polymer with oxirane, acetate	60-80
25085-50-1	4-(1,1-Dimethylethyl) phenol, polymer with formaldehyde	20-40

4 First Aid Measures

Description of first aid measures

General advice: Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

If inhaled:

Remove to fresh air. If breathing is difficult, oxygen should be given by qualified personal. Call a physician or transport to a medical facility.

In case of skin-contact:

Remove contaminated clothing and wash affected skin with soap and plenty of water. Consult a doctor in the event of a skin reaction.

In case of eye-contact:

Rinse immediately with plenty of water for at least 15 minutes and seek immediately medical advice.

If swallowed: DO NOT induce the patient to vomit, medical advice is required.

Advice to physicians: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 Fire Fighting Measures

Suitable extinguishing media:

Carbon dioxide (CO₂), foam, extinguishing powder. In cases of larger fires, water spray should be used.

Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture:

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

Advice for fire-fighters:

During fire-fighting respirator with independent air-supply and airtight garment is required.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Put on protective equipment. Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

Environment related measures: Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up:

Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO₂!). Keep damp in a safe ventilated area for several days.

7 Handling and storage

Precautions for safe handling:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Wash hands before breaks and at the end of workday. Keep working clothes separately. Take off all contaminated clothing immediately. Decontaminate, destroy and dispose of soiled protective clothing. Provide sufficient air exchange and/or exhaust in work rooms. In all workplaces or parts of the plant where high concentrations of isocyanate aerosols and/or vapours may be generated (e.g. during pressure release, mould venting or when cleaning mixing heads with an air blast), appropriately located exhaust ventilation must be provided to prevent occupational exposure limits from being exceeded. Contact with skin and eyes and inhalation of vapours must be avoided under all circumstances. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame.

Conditions for safe storage, including any incompatibilities:

Keep containers dry and tightly closed. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Keep away from foodstuffs, drinks and tobacco. Keep away from: oxidising agents, strong alkalis, strong acids.

Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

8 Exposure controls / Personal protection

Control parameters

Components with workplace control parameters: diphenylmethane-4,4'-diisocyanate: [101-68-8]

Occupational exposure limits: STEL: 0,1 mg/m³ ; TWA: 0,05 mg/m³

Exposure controls

Respiratory protection: Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.

Hand protection: Suitable materials for safety gloves; EN 374-3:

Polychloroprene - CR: thickness \geq 0,5 mm; breakthrough time \geq 480 min. Nitrile rubber - NBR: thickness \geq 0,35 mm; breakthrough time \geq 480 min. Butyl rubber - IIR: thickness \geq 0,5 mm; breakthrough time \geq 480 min.

Fluorinated rubber - FKM: thickness \geq 0,4 mm; breakthrough time \geq 480 min. Recommendation: contaminated gloves should be disposed of.

Eye protection:

Wear eye/face protection.

Skin and body protection:

Wear suitable protective clothing.

9 Physical and Chemical properties

Appearance colour odour
liquid brown musty, earthy

Value / Range Method

pH- n.a

Change of physical state

Pourpoint -20°C

Boiling point >300 °C DIN 51757

Flashpoint >200 °C DIN 51758

Auto-ignition temp. > 500 °C DIN 51794

Flammability limit Flammability limit-upper: n.a.

Flammability limit-lower: n.a.

Vapor pressure <0,00001 mbar at 20 °C

Density 1.2 g/cm³ / 20 °C DIN 51757

Solubility in water insoluble, reacts

Kin. Viscosity 100 - 300 mPa · s / 20 °C DIN 53211

10 Stability / Reactivity

Chemical stability

Stable under normal storage conditions. Do not store in open containers. When in contact with moisture or water: formation of carbon dioxide.

Above 230 °C and on combustion: carbon oxides, nitrogen oxides, hydrogen cyanide.

Materials to avoid

Water (moisture), strong inorganic bases, hydroxyl-, amine-, epoxide- and acid groups. Exothermic reaction with amines and alcohols; reacts with water forming carbon dioxide; in closed containers, risk of bursting owing to increase of pressure.

Hazardous decompositions products

No hazardous decomposition products when stored and handled correctly.

Additional Information: None

11 Toxicological Information

Information on toxicological effects

Acute toxicity, oral: diphenylmethane-diisocyanate, isomers and homologues

LD50 rat: > 1.500 mg/kg

Toxicological studies of a comparable product.

Acute toxicity, inhalation:

diphenylmethane-diisocyanate, isomers and homologues

LC50 rat: 490 mg/m³, 4 h

Test substance: as aerosol

Concentration of the saturated vapor of 4,4-MDI at 25 °C: 0,09 mg/m³

Primary skin irritation:

diphenylmethane-diisocyanate, isomers and homologues rabbit

Result: irritating

Method: OECD Test Guideline 404

Toxicological studies of a comparable product.

Primary mucosae irritation:

diphenylmethane-diisocyanate, isomers and homologues rabbit

Result: non-irritant

Method: OECD Test Guideline 405

Toxicological studies of a comparable product.

Sensitization:

diphenylmethane-diisocyanate, isomers and homologues Result: May cause sensitization by inhalation and skin contact. Subacute, subchronic and prolonged toxicity: diphenylmethane-diisocyanate, isomers and homologues Long-term inhalation study of tech. diphenylmethane diisocyanate (PMDI) carried out using mechanically produced, inhalable PMDI aerosols. Aerodynamic diameter: 95 % below 5 µm Concentrations: 0,2; 1,0 and 6,0 mg/m³ - Animal groups: 120 rats in each (60 female, 60 male) Results after clinical and histopathological examination of the animals: 0,2 mg aerosols/m³:

No irritation of the respiratory tract or lungs - "no effect level" (NOEL).

1,0 mg aerosols/m³: Slight irritation of and inflammatory changes to the nose, respiratory tract and lungs

No lung tumours.

6,0 mg aerosols/m³: More severe irritation of and chronic inflammatory changes to the nose, respiratory tract and lungs. Accumulation of a yellow substance in the lungs.

8 benign (statistically increased) and 1 malignant (statistically insignificant) lung tumours were found.

The overall increased incidence of lung tumours only in the group which received the highest concentration is closely attributed to the chronic irritation of and the inflammatory changes to the respiratory organs and to the accumulation of the yellow substance in the lungs of the animals.

Additional information:

Special properties/effects:

Eye effect: Causes slight temporary reddening and swelling of the conjunctiva and slight reversible clouding of the cornea. In high concentrations vapor of product has irritating effects on eyes and mucous membranes.

Skin effect: Irritant. Prolonged contact with the skin may cause tanning and irritant effects. Human experience: 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. Possible delayed appearance of the symptoms and allergic reaction in susceptible persons.

12 Ecological information

Do not allow to escape into waterways, wastewater or soil.

Acute Fish toxicity:

diphenylmethane-diisocyanate, isomers and homologues

LC0 > 1.000 mg/l

Species: Danio rerio (zebra fish) Exposure duration: 96 h

Method: OECD Test Guideline 203

Acute toxicity for daphnia:

diphenylmethane-diisocyanate, isomers and homologues

EC50 > 1.000 mg/l

Species: Daphnia magna (Water flea) Exposure duration: 24 h

Method: OECD Test Guideline 202

Acute bacterial toxicity:

diphenylmethane-diisocyanate, isomers and homologues

EC50 > 100 mg/l

Tested on: activated sludge duration of test: 3 h

Method: OECD Test Guideline 209

Persistence and degradability

Biodegradability:

diphenylmethane-diisocyanate, isomers and homologues

Biodegradation: 0 %, 28 d, i.e. not degradable Method: OECD Test Guideline 302 C

Additional information on ecotoxicology:

The product reacts with water at the interface forming CO₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

13 Disposal Considerations

Product

Customers are advised to check their national, state and local legislation concerning the disposal of waste materials.

EWC-No.: 07 02 08

Waste treatment methods

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing takeback scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations. None disposal into waste water.

14 Transport information

Land	Sea	Air
GGVE/GGVS: KI. - Zi. -	GGVSee/IMDG: Code: - UN-NR.: -	ADNR: KI. - Zi. - Kat. -
RID/ADR: KL. - Zi. -	MFAG: - EmS: - PG: - MPO: -	ISAO/IATA-DGR: not restr.

15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations:

Any existing national regulations on the handling of isocyanates must be observed.

16 Other information

ISOPA Guidelines for safe loading/unloading, transport and storage of TDI and MDI.

ISOPA Order No.: PSC-0005-GUIDL

Safety precautions for handling freshly moulded polyurethane parts:

Depending on the production parameters, any uncovered surfaces of polyurethane mouldings produced using this raw material may contain traces of substances (e. g. starting and reaction products, catalysts, release agents) with hazardous characteristics. Skin contact with traces of these substances must be avoided. When demolding or otherwise handling freshly molded polyurethane parts, protective textile gloves must be worn as a minimum. Their palm and finger areas should preferably be coated on the outside with nitrile rubber, PVC or polyurethane. Protective gloves should be changed daily. The wearing of protective clothing suited to the condition normally encountered when handling freshly molded polyurethane parts is recommended.

This version replaces all previous versions.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. Therefore, it should not be construed as guaranteeing any specific property of the product.