



Moulding and Casting Materials
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SECTION 1 – IDENTIFICATION OF MATERIAL AND SUPPLIER

SUPPLIER:	SOLID SOLUTIONS.
ABN:	46 977 073 014.
ADDRESS:	19 Ardena Court, East Bentleigh, VIC 3165.
TELEPHONE:	(03) 9579 2044.
AH EMERGENCY TELEPHONE:	13 1126 (Poisons Information Centre).
FAX:	(03) 9579 0573.
WEB PAGE:	www.solidsolutions.com.au
Product Name:	Solid Cast 606 Part B.
Product Use:	Ambient temperature curing agent formulation for mixing with Solid Cast 606 Part A. Solid Cast 606 Kit is used in areas such as clear castings, electrical encapsulation and badge coating.
Manufacturer's Product Code:	Not applicable.
Creation Date:	01/15/2012.
Revision Date:	

SECTION 2 – HAZARDS IDENTIFICATION

This product is classified as a **HAZARDOUS SUBSTANCE** according to criteria of the ASCC and as **DANGEROUS GOODS** according to the ADG Code.

Hazard Category:	T: Toxic; Xn: Harmful; C: Corrosive; N: Dangerous for the environment.
Emergency Overview:	Alkaline material, causes severe burns. Toxic by inhalation and in contact with skin
Skin Contact:	Alkaline material, causes severe burns. Toxic by inhalation and in contact with skin
Eye Contact:	Alkaline material, causes severe burns. Toxic by inhalation and in contact with skin
Inhalation:	Toxic by inhalation and in contact with skin
Primary Routes of Exposure:	Respiratory system, skin, eyes.
Risk Statements:	R22 Harmful if swallowed. R23/24 Toxic by inhalation and in contact with skin. R35 Causes severe burns. R51 Toxic to aquatic organisms. R53 May cause long-term adverse effects in the aquatic environment.
Safety Statements:	S2 Keep out of the reach of children. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of soap-suds. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). S61 Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Proportion:
Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine))	6864-37-5	>99% w/w
Water	7732-18-5	< 1% w/w
Total		100% w/w

SECTION 4 – FIRST AID MEASURES

Scheduled Poisons:	Poisons Information Centre in each Australian State capital city can provide additional assistance for scheduled poisons. (Phone Australia 13 1126) or a doctor (at once).
First Aid Facilities Required:	Eye wash fountains and a general washing facility should be easily accessible in the immediate work area.
Inhalation:	Remove victim from exposure to fresh air – avoid becoming a casualty. If not breathing, apply mouth-to-mouth resuscitation. If breathing is difficult, qualified personnel should administer oxygen. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Call a doctor and/or transport to an emergency hospital.
Skin Contact:	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Immediately remove contaminated clothing and wash before reuse. If irritation develops seek medical attention.
Eye Contact:	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. If irritation develops seek medical attention.
Ingestion (Swallowed):	Immediately rinse mouth with water. If swallowed DO NOT induce vomiting. Give a glass of water to drink. Never give anything by mouth to an unconscious patient. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration into the lungs. Get to a doctor or hospital quickly.
Advice to Doctor:	No specific antidote is known. Supportive care. Treatment based on judgement by the doctor in response to reactions of the patient. Poisons Information Centre in each Australian State capital city can provide additional assistance for scheduled poisons.

SECTION 5 – FIRE FIGHTING MEASURES

Hazards from Combustion Products:	Upon combustion, this product may emit carbon monoxide, carbon dioxide, oxides of nitrogen (NO _x), ammonia, nitric acid, dense black smoke, and other possibly toxic gases and vapours on burning.
Hazardous Decomposition Products:	Upon decomposition, this product may emit carbon monoxide, carbon dioxide, oxides of nitrogen (NO _x), ammonia, nitric acid, dense black smoke, and other possibly toxic gases and vapours on burning.
Suitable Extinguishing Media:	Carbon dioxide, dry chemical foam, dry powder. For large-scale fires, alcohol resistant foams are preferred if available. General-purpose synthetic foams or protein foams may function, but much less effectively. Water spray, fog or foam may be used but not as a water jet. If possible, contain fire run off water.
Precautions for Fire Fighting:	In case of fire use large quantities of water, foam, carbon dioxide or a dry chemical. Immediately evacuate the area (including down-wind) of unnecessary personnel. People who are fighting fires must be protected against hazardous combustion products by wearing positive pressure self-contained breathing apparatus and full protective clothing. Do not reseal contaminated containers. If safe to do so, remove container(s) from the path of the fire if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.
Hazchem Code:	2XE.
Flash Point:	Ca. 141°C.
Solubility in Water:	Ca. 3.6 g/l.
Fire Hazards:	Hazardous combustion products: Upon decomposition, this product may emit carbon monoxide, carbon dioxide, oxides of nitrogen (NO _x), ammonia, nitric acid, dense black smoke, and other possibly toxic gases and vapours on burning.
Flammability:	Non-flammable liquid. Combustible Liquid C1. Product may burn in a fire situation generating toxic vapours or fumes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills:	
Personal Precautions:	Evacuate and ventilate spill area. In case of spill, wear full protective equipment including respiratory equipment during clean up as indicated in section 8 below. Isolate hazard area and deny entry.
Environmental Precautions:	Contain spill, e.g. by diking, to prevent entry into sewers, drainage system, surface or ground water systems. In the event of product entering waters or drainage system, or polluting soil or plants contact the Environmental Protection Authority or your local Waste Management Authority.
Major Spill:	If transportation spill, dial "000" for Police or Fire Brigade. Large quantities may be pumped into closed containers for disposal.
Minor Spill:	Spilt material may result in a slip hazard and should be absorbed into dry, inert material (e.g. sand, sawdust, vermiculite or other absorbent), which then can be put into appropriately labelled open top drums.
Clean Up:	Residual material may be removed using water spray and may be neutralized with a dilute solution of acetic acid (vinegar).

SECTION 7 – HANDLING AND STORAGE

Handling:	Avoid all personal contact, including skin and eye contact and inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers closed at all times. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use.
Storage:	Store indoors at 15 to 25°C in original, unopened containers. Store away from strong oxidising agents, acids. Masses of more than 0.5 kg of product plus an epoxy resin will cause irreversible polymerization with considerable heat build-up.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:	National Occupational Exposure Limits, as published by National Occupational Health & Safety Commission: Time-weighted Average (TWA): None established for this product or its ingredients. Short Term Exposure Limit (STEL): None established for this product or its ingredients.
Engineering Controls:	Ensure for good ventilation/ suction. Use only in a well-ventilated area. Ensure airflow, where this product is used, is directed away from the operators.
Personal Protection:	<u>Respiratory protective equipment:</u> Avoid breathing dust (or) vapour (or) spray mist. Suitable breathing mask where ventilation is inadequate. <u>Eye protection:</u> Avoid contact with eyes. Wear eye protection when mixing or using. The use of face shields, chemical goggles, or safety glasses with side shield protection is recommended. <u>Hand protection:</u> Avoid contact with skin. Wear protective gloves when mixing or using. Chemical resistant gloves (e.g. Butyl, Neoprene, Viton, Polyethylene/Ethylene Vinyl Alcohol/ Polyethylene (or PE/EVAL/PE) or Dupont Barricade gloves complying with AS 2161) are recommended. <u>Clothing:</u> Suitable protective clothing complying with AS 2919 (Industrial Clothing), suitable footwear complying with AS/NZS 2210 (Occupational protective footwear - Guide to selection, care and use).

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Description/

Properties:

Appearance:	Colourless to slight yellow liquid
Colour:	Colourless to slight yellow.
Odour:	Irritating, ammoniacal odour.
pH:	Ca. 11.
Vapour Pressure:	< 10.34 mm Hg @ 21°C.
Vapour Density:	Ca. 8 (Air = 1).
Boiling Point/ Range:	Ca. 347°C.
Freezing/ Melting Point:	Not available.
Solubility in Water:	Ca 3.6 g/l.
Specific Gravity:	0.95.
Flashpoint:	Ca. 141°C.
Flammability Limits:	Not applicable.
Ignition Temperature:	Not available.

Other Properties:

Volatile Organic Compounds (VOC) Content:	0 % v/v.
Per Cent Volatile:	0 % v/v.
Solubility in Solvents:	Soluble in many organic solvents.
Stability:	Stable under normal conditions.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability:	Stable at normal temperatures and pressure.
Conditions to Avoid:	Avoid extreme heat.
Materials to Avoid:	Strong oxidising agents, acids. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material. Masses of more than 0.5 kg of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.
Hazardous Decomposition:	Upon decomposition, this product may emit carbon monoxide, carbon dioxide, oxides of nitrogen (NO _x), ammonia, nitric acid, dense black smoke, and other possibly toxic gases and vapours on burning.
Hazardous Polymerisation:	Will not occur by itself, but masses of more than 0.5 kg of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

SECTION 11 – TOXICOLOGICAL INFORMATION

Health Effects:	No data for product, following data is compiled on basis of ingredients.
Acute:	
Swallowed:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), ingestion may cause death unless treated promptly. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. May be fatal if swallowed. Toxic if swallowed.
Eye:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), severe eye irritation in rabbit eye irritation test. Chemical vapour in low concentrations can cause lachrymation, conjunctivitis and corneal oedema when absorbed into the tissue of the eye from the atmosphere. Corneal oedema can cause the perception of "blue haze" or "fog" around lights, although this is a temporary effect and has no known residual effect. Causes eye burns. May cause blindness. Contact of undiluted chemical with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury.
Skin:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), severe skin irritation in rabbit skin irritation test. Contact of undiluted chemical with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury. Product is absorbed through the skin and may cause malaise, discomfort, injury and death unless treated promptly. Toxic in contact with skin.
Inhaled:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), severe skin irritation in rabbit skin irritation test. Harmful if inhaled and may cause delayed lung damage. Delayed adverse effects possible. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Can cause severe eye, skin and respiratory tract burns. Inhalation of vapours, mists and all aerosols in a high concentration may cause irritation of respiratory system, severely damage contacted tissue and produce scarring. Highly toxic by inhalation.
Carcinogenicity:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), this chemical contains no listed carcinogen is according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1% or greater.
Reproductive and Developmental Toxicity:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Ames test (activated & non-activated): not mutagenic.
Acute Toxicity Data (Oral):	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Very Toxic, (Oral) LD ₅₀ (rat) > 320 mg/kg.
Acute Toxicity Data (Dermal):	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Toxic, (Dermal) LD ₅₀ (rabbit) > 200 mg/kg.
Acute Toxicity Data (Inhalation):	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Highly Toxic (Inhalation) LC ₅₀ (rat), 4 hours, 0.42 mg/l.

Chronic Toxicity Data:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), has been tested and shown not to cause sensitization in guinea pigs. Prolonged contact may result in chemical burns and permanent damage. Repeated and/or prolonged exposure to low concentrations of vapours and/or aerosols may cause sore throat with this chemical.
Additional Information:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), aggravated medical conditions include asthma, eye disease, skin disorders and allergies.

SECTION 12 – ECOLOGICAL INFORMATION

Movement & Partitioning	No data for product, following data is compiled on basis of ingredients. On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), no data available. Log octanol/water partition coefficient (log Pow) of 2.51 @ 25°C, bioaccumulation in organisms is not to be expected.
Degradation & Persistence:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), poorly biodegradable. 0-10% degree of elimination (DOC reduction - OECD guideline 302 B, activated sludge, domestic adapted), in 28 days.
Fish Toxicity:	On basis of ingredients: Toxicity for Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Acute LC ₅₀ (96 hour) for Golden Orfe (<i>Leuciscus idus</i>) > 22 - < 45 mg/l.
Algae Toxicity:	Toxicity for Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), Acute EC ₅₀ (72 hour) for <i>Scenedesmus subspicatus</i> is 2.1 mg/l.
Invertebrates Toxicity:	On basis of ingredients: Toxicity for Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), EC ₅₀ (48 hour) for water flea (<i>Daphnia magna</i>) is 15.2 mg/l..
Toxicity to Microorganisms:	On basis of ingredients: Toxicity for Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)) EC ₂₀ to bacteria in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is 160 mg/l. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. EC ₅₀ (17 hours) for bacterium is 96 mg/l.
Other Eco-toxicological Advice:	On basis of ingredients: Cycloaliphatic Amine (2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)), due to the pH value of the chemical, neutralization is generally required before discharging sewage into treatment plants.
General:	DO NOT DISCHARGE INTO DRAINS, WATERWAYS, SEWER OR ENVIRONMENT. Product partially miscible with water. Keep from entering waste-water, soil or surface waters. Inform local authorities if this occurs.

SECTION 13 – DISPOSAL CONSIDERATIONS

Any disposal of product, drain and rinse liquid, or containers, must be in accordance with all State, Territory and/or Local government regulations. Liquids are usually incinerated in an approved facility. Waste characterisation and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. None of these waste management options should be considered “arranging for disposal”.

SECTION 14 – TRANSPORT INFORMATION

General: This material is a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

UN Number: 2922.

UN Proper Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S. (Contains 2,2-Dimethyl-4,4'-methylenebis(cyclohexylamine)).

ADG Class: 8.

ADG Subsidiary Risk: 6.1.

Packing Group: II.

HAZCHEM Code: 2XE.

Flammability: Non-flammable liquid. Combustible Liquid C1. Product may burn in a fire situation generating toxic vapours or fumes.

SECTION 15 – REGULATORY INFORMATION

SUSDP: Poisons Schedule Number S5 allocated.

AICS: All ingredients present on AICS.

Labelling Details:

Hazard Category: T: Toxic; Xn: Harmful; C: Corrosive; N: Dangerous for the environment.

Risk Statements: R22 Harmful if swallowed.
R23/24 Toxic by inhalation and in contact with skin.
R35 Causes severe burns.
R51 Toxic to aquatic organisms.
R53 May cause long-term adverse effects in the aquatic environment.

Safety Statements: S2 Keep out of the reach of children.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of soap-suds.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
S61 Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

SUSDP: Poisons Schedule Number S5 allocated.

ADG Code: Class 8, Subsidiary Risk 6.1.

SECTION 16 – OTHER INFORMATION

Acronyms:	SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons.
	ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail.
	CAS Number	Chemical Abstracts Service Registry Number.
	UN Number	United Nations Number.
	HAZCHEM	An emergency action code of numbers and letters which gives information to emergency services.
	ASCC	Australian Safety and Compensation Council.
	AICS	Australian Inventory of Chemical Substances.
Issue Date:		
Supersedes Issue Date:		
Revision Information:	Reformat.	
Contact Point:	Regulatory Affairs Manager.	
Telephone:	(03) 9579 2044.	
Note:	Safety Data Sheets are updated frequently. Please ensure that you have a current copy.	
Disclaimer:	This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of this product, and in particular how to safely handle and use this product in the workplace. Since Solid Solutions cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace. This SDS does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.	