Tradesmans Warehouse

Tradesmans Warehouse High Solids Epoxy Hardener B

Version No: **2.1.1.1**
Safety Data Sheet according to WHS and ADG requirements
Issue Date: **19/04/2018**
Print Date: 19/04/2018
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Tradesmans Warehouse High Solids Epoxy Hardener B
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains isophorone diamine)
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. **Do not** return the mixed material to the original containers Base component of epoxy floor coating

Details of the supplier of the safety data sheet

Registered company name	**Tradesmans Warehouse**
Address	**4A Progress Street, Yatala, Qld 4207 Australia**
Telephone	**+61 7 3297 4444**
Fax	**+61 7 3807 2030**
Website	**www.tradesmanswarehouse.com.au**
Email	**sales@tradesmanswarehouse.com.au**

Emergency telephone number

Association / Organisation	**Tradesmans Warehouse 24/7**
Emergency telephone numbers	**1800 204 607 (24hr)**
Other emergency telephone numbers	Not Available

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

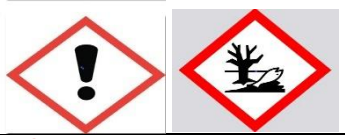
TRADESMANS WAREHOUSE HAZARD RATINGS

Flammability	**1**
Toxicity	**2**
Body Contact	**3**
Reactivity	**1**
Chronic	**2**

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	Not Applicable
Classification [1]	Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
Legend:	*1. Classified byTradesmans Warehouse; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*

Label elements

Hazard pictogram(s)	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

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Precautionary statement(s) Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P234	Keep only in original container.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

Precautionary statement(s) Storage

P405	Store locked up
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
100-51-6	10-29	benzyl alcohol
2855-13-2	10-29	isophorone diamine
1477-55-0	10-29	benzene-1,3-dimethanamine
69-72-7	1-9	salicylic acid
	balance	Ingredients determined not to be hazardous

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ➢ Immediately hold eyelids apart and flush the eye continuously with running water. ➢ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ➢ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ➢ Transport to hospital or doctor without delay. ➢ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. For amines: ➢ If liquid amines come in contact with the eyes, irrigate immediately and continuously with low pressure flowing water, preferably from an eye wash fountain, for 15 to 30 minutes. ➢ For more effective flushing of the eyes, use the fingers to spread apart and hold open the eyelids. The eyes should then be “rolled” or moved in all directions. ➢ Seek immediate medical attention, preferably from an ophthalmologist.
Skin Contact	If skin or hair contact occurs: ➢ Immediately flush body and clothes with large amounts of water, using safety shower if available. ➢ Quickly remove all contaminated clothing, including footwear. ➢ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ➢ Transport to hospital, or doctor. For amines: ➢ In case of major exposure to liquid amine, promptly remove any contaminated clothing, including rings, watches, and shoe, preferably under a safety shower. ➢ Wash skin for 15 to 30 minutes with plenty of water and soap. Call a physician immediately. ➢ Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. ➢ Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing. ➢ Discard contaminated leather articles such as shoes, belts, and watchbands. ➢ Note to Physician: Treat any skin burns as thermal burns. After decontamination, consider the use of cold packs and topical antibiotics.

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Inhalation	➢ If fumes or combustion products are inhaled remove from contaminated area. ➢ Lay patient down. Keep warm and rested. ➢ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ➢ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ➢ Transport to hospital, or doctor. ➢ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ➢ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ➢ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ➢ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. **This must definitely be left to a doctor or person authorised by him/her.** (ICSC13719) For amines: ➢ All employees working in areas where contact with amine catalysts is possible should be thoroughly trained in the administration of appropriate first aid procedures. ➢ Experience has demonstrated that prompt administration of such aid can minimize the effects of accidental exposure. ➢ Promptly move the affected person away from the contaminated area to an area of fresh air. ➢ Keep the affected person calm and warm, but not hot. ➢ If breathing is difficult, oxygen may be administered by a qualified person. ➢ If breathing stops, give artificial respiration. Call a physician at once.
Ingestion	➢ For advice, contact a Poisons Information Centre or a doctor at once. ➢ Urgent hospital treatment is likely to be needed. ➢ If swallowed do **NOT** induce vomiting. ➢ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ➢ Observe the patient carefully. ➢ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ➢ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ➢ Transport to hospital or doctor without delay. For amines: ➢ If liquid amine are ingested, have the affected person drink several glasses of water or milk. ➢ Do not induce vomiting. ➢ Immediately transport to a medical facility and inform medical personnel about the nature of the exposure. The decision of whether to induce vomiting should be made by an attending physician.

Indication of any immediate medical attention and special treatment needed

for salicylate intoxication:

- Pending gastric lavage, use emetics such as syrup of Ipecac or delay gastric emptying and absorption by swallowing a slurry of activated charcoal. Do not give ipecac after charcoal.
- Gastric lavage with water or perhaps sodium bicarbonate solution (3%-5%). Mild alkali delays salicylate absorption from the stomach and perhaps slightly from the duodenum.
- Saline catharsis with sodium or magnesium sulfate (15-30 gm in water).
- Take an immediate blood sample for an appraisal of the patient's acid-base status. A pH determination on an anaerobic sample of arterial blood is best. An analysis of the plasma salicylate concentration should be made at the same time. Laboratory controls are almost essential for the proper management of severe salicylism.
- In the presence of an established acidosis, alkali therapy is essential, but at least in an adult, alkali should be withheld until its need is demonstrated by chemical analysis. The intensity of treatment depends on the intensity of acidosis. In the presence of vomiting, intravenous sodium bicarbonate is the most satisfactory of all alkali therapy.
- Correct dehydration and hypoglycaemia (if present) by the intravenous administration of glucose in water or in isotonic saline. The administration of glucose may also serve to remedy ketosis which is often seen in poisoned children.
- Even in patients without hypoglycaemia, infusions of glucose adequate to produce distinct hyperglycaemia are recommended to prevent glucose depletion in the brain. This recommendation is based on impressive experimental data in animals.
- Renal function should be supported by correcting dehydration and incipient shock. Overhydration is not justified. An alkaline urine should be maintained by the administration of alkali if necessary with care to prevent a severe systemic alkalosis. As long as urine remains alkaline (pH above 7.5), administration of an osmotic diuretic such as mannitol or perhaps THAM is useful, but one must be careful to avoid hypokalaemia. Supplements of potassium chloride should be included in parenteral fluids.
- Small doses of barbiturates, diazepam, paraldehyde, or perhaps other sedatives (but probably not morphine) may be required to suppress extreme restlessness and convulsions.
- For hyperpyrexia, use sponge baths.
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The presence of petechiae or other signs of haemorrhagic tendency calls for a large Vitamin K dose and perhaps ascorbic acid. Minor transfusions may be necessary since bleeding in salicylism is not always due to a prothrombin effect.

- Haemodialysis and haemoperfusion have proved useful in salicylate poisoning, as have peritoneal dialysis and exchange transfusions, but alkaline diuretic therapy is probably sufficient except in fulminating cases.
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[*GOSSELIN, et.al.: Clinical Toxicology of Commercial Products*]

The mechanism of the toxic effect involves metabolic acidosis, respiratory alkalosis, hypoglycaemia, and potassium depletion. Salicylate poisoning is characterised by extreme acid-base disturbances, electrolyte disturbances and decreased levels of consciousness. There are differences between acute and chronic toxicity and a varying clinical picture which is dependent on the age of the patient and their kidney function. The major feature of poisoning is metabolic acidosis due to "uncoupling of oxidative phosphorylation" which produces an increased metabolic rate, increased oxygen consumption, increased formation of carbon dioxide, increased heat production and increased utilisation of glucose. Direct stimulation of the respiratory centre leads to hyperventilation and respiratory alkalosis. This leads to compensatory increased renal excretion of bicarbonate which contributes to the metabolic acidosis which may coexist or develop subsequently. Hypoglycaemia may occur as a result of increased glucose demand, increased rates of tissue glycolysis, and impaired rate of glucose synthesis. **NOTE:** Tissue glucose levels may be lower than plasma levels. Hyperglycaemia may occur due to increased glycogenolysis. Potassium depletion occurs as a result of increased renal excretion as well as intracellular movement of potassium.

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Salicylates competitively inhibit vitamin K dependent synthesis of factors II, VII, IX, X and in addition, may produce a mild dose dependent hepatitis. Salicylates are bound to albumin. The extent of protein binding is concentration dependent (and falls with higher blood levels). This, and the effects of acidosis, decreasing ionisation, means that the volume of distribution increases markedly in overdose as does CNS penetration. The extent of protein binding (50-80%) and the rate of metabolism are concentration dependent. Hepatic clearance has zero order kinetics and thus the therapeutic half-life of 2-4.5 hours but the half-life in overdose is 18-36 hours. Renal excretion is the most important route in overdose. Thus when the salicylate concentrations are in the toxic range there is increased tissue distribution and impaired clearance of the drug.

HyperTox 3.0 https://www.ozemail.com.au/-ouad/SALI0001.HTA
For acute or short-term repeated exposures to highly alkaline materials:
- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:
- Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.
- Neutralising agents should never be given since exothermic heat reaction may compound injury.

* Catharsis and emesis are absolutely contra-indicated.
* Activated charcoal does not absorb alkali.
* Gastric lavage should not be used.

Supportive care involves the following:
- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:
- Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]
Clinical experience of benzyl alcohol poisoning is generally confined to premature neonates in receipt of preserved intravenous salines.
- Metabolic acidosis, bradycardia, skin breakdown, hypotonia, hepatorenal failure, hypotension and cardiovascular collapse are characteristic.
- High urine benzoate and hippuric acid as well as elevated serum benzoic acid levels are found.
- The so-called "gasping syndrome describes the progressive neurological deterioration of poisoned neonates.
- Management is essentially supportive.

for non-steroidal anti-inflammatories (NSAIDs)
- Symptoms following acute NSAIDs overdoses are usually limited to lethargy, drowsiness, nausea, vomiting, and epigastric pain, which are generally reversible with supportive care. Gastrointestinal bleeding can occur. Hypertension, acute renal failure, respiratory depression, and coma may occur, but are rare. Anaphylactoid reactions have been reported with therapeutic ingestion of NSAIDs, and may occur following an overdose.
- Patients should be managed by symptomatic and supportive care following a NSAIDs overdose.
- There are no specific antidotes.
- Emesis and/or activated charcoal (60 to 100 grams in adults, 1 to 2 g/kg in children), and/or osmotic cathartic may be indicated in patients seen within 4 hours of ingestion with symptoms or following a large overdose (5 to 10 times the usual dose).
- Forced diuresis, alkalinisation of urine, hemodialysis, or haemoperfusion may not be useful due to high protein binding.

For amines:
- Certain amines may cause injury to the respiratory tract and lungs if aspirated. Also, such products may cause tissue destruction leading to stricture. If lavage is performed, endotracheal and/or esophagoscopic control is suggested.
- No specific antidote is known.
- Care should be supportive and treatment based on the judgment of the physician in response to the reaction of the patient.

Laboratory animal studies have shown that a few amines are suspected of causing depletion of certain white blood cells and their precursors in lymphoid tissue. These effects may be due to an immunosuppressive mechanism.
Some persons with hyperreactive airways (e.g., asthmatic persons) may experience wheezing attacks (bronchospasm) when exposed to airway irritants.
Lung injury may result following a single massive overexposure to high vapour concentrations or multiple exposures to lower concentrations of any pulmonary irritant material.
Health effects of amines, such as skin irritation and transient corneal edema (“blue haze,” “halo effect,” “glaucopsia”), are best prevented by means of formal worker education, industrial hygiene monitoring, and exposure control methods. Persons who are highly sensitive to the triggering effect of non-specific irritants should not be assigned to jobs in which such agents are used, handled, or manufactured.
Medical surveillance programs should consist of a pre-placement evaluation to determine if workers or applicants have any impairments (e.g., hyperreactive airways or bronchial asthma) that would limit their fitness for work in jobs with potential for exposure to amines. A clinical baseline can be established at the time of this evaluation.
Periodic medical evaluations can have significant value in the early detection of disease and in providing an opportunity for health counselling.
Medical personnel conducting medical surveillance of individuals potentially exposed to polyurethane amine catalysts should consider the following:
- Health history, with emphasis on the respiratory system and history of infections
- Physical examination, with emphasis on the respiratory system and the lymphoreticular organs (lymph nodes, spleen, etc.)
- Lung function tests, pre- and post-bronchodilator if indicated
- Total and differential white blood cell count
- Serum protein electrophoresis

Persons who are concurrently exposed to isocyanates also should be kept under medical surveillance.
Pre-existing medical conditions generally aggravated by exposure include skin disorders and allergies, chronic respiratory disease (e.g. bronchitis, asthma, emphysema), liver disorders, kidney disease, and eye disease.
Broadly speaking, exposure to amines, as characterised by amine catalysts, may cause effects similar to those caused by exposure to ammonia. As such, amines should be considered potentially injurious to any tissue that is directly contacted.
Inhalation of aerosol mists or vapors, especially of heated product, can result in chemical pneumonitis, pulmonary edema, laryngeal edema, and delayed scarring of the airway or other affected organs. There is no specific treatment.
Clinical management is based upon supportive treatment, similar to that for thermal burns.
Persons with major skin contact should be maintained under medical observation for at least 24 hours due to the possibility of delayed reactions.
Polyurethene Amine Catalysts: Guidelines for Safe Handling and Disposal Technical Bulletin June 2000
Alliance for Polyurethanes Industry

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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

- Water spray or fog.
- Alcohol stable foam.
- Dry chemical powder.
- Carbon dioxide.
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Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Advice for firefighters

Fire Fighting	➢ Alert Fire Brigade and tell them location and nature of hazard. ➢ Wear full body protective clothing with breathing apparatus. ➢ Prevent, by any means available, spillage from entering drains or water course. ➢ Use fire fighting procedures suitable for surrounding area. ➢ **Do not** approach containers suspected to be hot. ➢ Cool fire exposed containers with water spray from a protected location. For amines: ➢ For firefighting, cleaning up large spills, and other emergency operations, workers must wear a self-contained breathing apparatus with full face-piece, operated in a pressure-demand mode. ➢ Airline and air purifying respirators should not be worn for firefighting or other emergency or upset conditions ➢ Respirators should be used in conjunction with a respiratory protection program, which would include suitable fit testing and medical evaluation of the user.
Fire/Explosion Hazard	➢ Combustible. ➢ Slight fire hazard when exposed to heat or flame. ➢ Heating may cause expansion or decomposition leading to violent rupture of containers. ➢ On combustion, may emit toxic fumes of carbon monoxide (CO). ➢ May emit acrid smoke. ➢ Mists containing combustible materials may be explosive. Combustion products include: , carbon dioxide (CO_2) , aldehydes , nitrogen oxides (NO_x) , other pyrolysis products typical of burning organic material. May emit corrosive fumes.
HAZCHEM	2X

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	➢ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. ➢ Check regularly for spills and leaks. ➢ Clean up all spills immediately. ➢ Avoid breathing vapours and contact with skin and eyes. ➢ Control personal contact with the substance, by using protective equipment. ➢ Contain and absorb spill with sand, earth, inert material or vermiculite. ➢ Wipe up. ➢ Place in a suitable, labelled container for waste disposal. for amines: ➢ If possible (i.e., without risk of contact or exposure), stop the leak. ➢ Contain the spilled material by diking, then neutralize. ➢ Next, absorb the neutralized product with clay, sawdust, vermiculite, or other inert absorbent and shovel into containers. ➢ Store the containers outdoors. ➢ Brooms and mops should be disposed of, along with any remaining absorbent, in accordance with all applicable federal, state, and local regulations and requirements. ➢ Decontamination of floors and other hard surfaces after the spilled material has been removed may be accomplished by using a 5% solution of acetic acid, followed by very hot water ➢ Dispose of the material in full accordance with all federal, state, and local laws and regulations governing the disposal of chemical wastes.
Major Spills	➢ Clear area of personnel and move upwind. ➢ Alert Fire Brigade and tell them location and nature of hazard. ➢ Wear full body protective clothing with breathing apparatus.

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Major Spills cont.	➢ Prevent, by all means available, spillage from entering drains or water course. ➢ Consider evacuation (or protect in place) ➢ Stop leak if safe to do so. For amines: ➢ First remove all ignition sources from the spill area. ➢ Have firefighting equipment nearby, and have firefighting personnel fully trained in the proper use of the equipment and in the procedures used in fighting a chemical fire. ➢ Spills and leaks of polyurethane amine catalysts should be contained by diking, if necessary, and cleaned up only by properly trained and equipped personnel. All others should promptly leave the contaminated area and stay upwind. ➢ Protective equipment for cleanup crews should include appropriate respiratory protective devices and impervious clothing, footwear, and gloves. ➢ All work areas should be equipped with safety showers and eyewash fountains in good working order.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling	➢ **DO NOT USE** brass or copper containers / stirrers ➢ **DO NOT** allow clothing wet with material to stay in contact with skin ➢ Avoid all personal contact, including inhalation. ➢ Wear protective clothing when risk of exposure occurs. ➢ Use in a well-ventilated area. ➢ Avoid contact with moisture. ➢ Avoid contact with incompatible materials. ➢ When handling, **DO NOT** eat, drink or smoke.
Other information	➢ Store in original containers. ➢ Keep containers securely sealed. ➢ Store in a cool, dry, well-ventilated area. ➢ Store away from incompatible materials and foodstuff containers. ➢ Protect containers against physical damage and check regularly for leaks. ➢ Observe manufacturer's storage and handling recommendations contained within this SDS. ➢ **DO NOT** store near acids, or oxidising agents ➢ No smoking, naked lights, heat or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	➢ Glass container is suitable for laboratory quantities ➢ Lined metal can, lined metal pail/ can. ➢ Plastic pail. ➢ Polyliner drum. ➢ Packing as recommended by manufacturer. ➢ Check all containers are clearly labelled and free from leaks. For low viscosity materials ➢ Drums and jerricans must be of the non-removable head type. ➢ Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): ➢ Removable head packaging; ➢ Cans with friction closures and ➢ low pressure tubes and cartridges may be used. - Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
Storage incompatibility	➢ Avoid contact with copper, aluminium and their alloys. ➢ Avoid reaction with oxidising agents ➢ Avoid strong acids, bases.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	benzene-1,3-dimethanamine	m-Xylene-a,a'-diamine	Not Available	Not Available	0.1 g/m3	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
benzyl alcohol	Benzyl alcohol	30 ppm	52 ppm	740 ppm

Ingredient	Original IDLH	Revised IDLH
benzyl alcohol	Not Available	Not Available
isophorone diamine	Not Available	Not Available
benzene-1,3-dimethanamine	Not Available	Not Available
salicylic acid	Not Available	Not Available

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Exposure controls

Appropriate engineering controls	**For potent pharmacological agents:** **Solutions Handling:** ➢ Solutions can be handled outside a containment system or without local exhaust ventilation during procedures with no potential for aerosolisation. If the procedures have a potential for aerosolisation, an air-purifying respirator is to be worn by all personnel in the immediate area. ➢ Solutions used for procedures where aerosolisation may occur (e.g., vortexing, pumping) are to be handled within a containment system or with local exhaust ventilation. ➢ In situations where this is not feasible (may include animal dosing), an air-purifying respirator is to be worn by all personnel in the immediate area. If using a ventilated enclosure that has not been validated, wear a half-mask respirator equipped with HEPA cartridges until the enclosure is validated for use. ➢ Ensure gloves are protective against solvents in use. **For potent pharmacological agents:** **Powders** To prevent contamination and overexposure, no open handling of powder should be allowed. ➢ Powder handling operations are to be done in a powders weighing hood, a glove box, or other equivalent ventilated containment system. ➢ In situations where these ventilated containment hoods have not been installed, a non-ventilated enclosed containment hood should be used. ➢ Pending changes resulting from additional air monitoring data, up to 300 mg can be handled outside of an enclosure provided that no grinding, crushing or other dust-generating process occurs. ➢ An air-purifying respirator should be worn by all personnel in the immediate area in cases where non-ventilated containment is used, where significant amounts of material (e.g., more than 2 grams) are used, or where the material may become airborne (as through grinding, etc.). ➢ Powder should be put into solution or a closed or covered container after handling. Enclosed local exhaust ventilation is required at points of dust, fume or vapour generation. HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours. Barrier protection or laminar flow cabinets should be considered for laboratory scale handling. A fume hood or vented balance enclosure is recommended for weighing/ transferring quantities exceeding 500 mg. When handling quantities up to 500 gram in either a standard laboratory with general dilution ventilation (e.g. 6-12 air changes per hour) is preferred. Quantities up to 1 kilogram may require a designated laboratory using fume hood, biological safety cabinet, or approved vented enclosures.
Personal protection	
Eye and face protection	When handling very small quantities of the material eye protection may not be required. For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs: ➢ Chemical goggles. ➢ Face shield. Full face shield may be required for supplementary but never for primary protection of eyes. ➢ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. For amines: SPECIAL PRECAUTION: ➢ Because amines are alkaline materials that can cause rapid and severe tissue damage, wearing of contact lenses while working with amines is strongly discouraged. Wearing such lenses can prolong contact of the eye tissue with the amine, thereby causing more severe damage. ➢ Appropriate eye protection should be worn whenever amines are handled or whenever there is any possibility of direct contact with liquid products, vapors, or aerosol mists. CAUTION: ➢ Ordinary safety glasses or face-shields will not prevent eye irritation from high concentrations of vapour. ➢ In operations where positive-pressure, air-supplied breathing apparatus is not required, all persons handling liquid amine catalysts or other polyurethane components in open containers should wear chemical workers safety goggles. ➢ Eyewash fountains should be installed, and kept in good working order, wherever amines are used.
Skin protection	See Hand protection below

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Hands/feet protection	➢ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. **NOTE:** ➢ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ➢ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. ➢ Rubber gloves (nitrile or low-protein, powder-free latex, latex/ nitrile). Employees allergic to latex gloves should use nitrile gloves in preference. ➢ Double gloving should be considered. ➢ PVC gloves. ➢ Change gloves frequently and when contaminated, punctured or torn. ➢ Wash hands immediately after removing gloves. ➢ Leather wear not recommended: Contaminated leather footwear, watch bands, should be destroyed, i.e. burnt, as they cannot be adequately decontaminated. For amines: ➢ Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. ➢ Application of a non-perfumed moisturiser is recommended ➢ Where there is a possibility of exposure to liquid amines skin protection should include: rubber gloves, (neoprene, nitrile, or butyl). ➢ DO NOT USE latex.
Body protection	See Other protection below
Other protection	➢ Overalls. ➢ PVC Apron. ➢ PVC protective suit may be required if exposure severe. ➢ Eyewash unit. ➢ Ensure there is ready access to a safety shower.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
***"*Forsberg Clothing Performance Index".**
The effect(s) of the following substance(s) are taken into account in the ***computer generated*** selection:
Tradesmans Choice High Solids Epoxy Hardener B

Material	CPI
BUTYL	C
VITON	C

* CPI – Tradesmans Warehouse Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. –
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as"feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 &149:2001,ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2*

* - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia (NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds (below 65 degC)

Continued…

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
Where engineering controls are not feasible and work practices do not reduce airborne amine concentrations below recommended exposure limits, appropriate respiratory protection should be used. In such cases, air-purifying respirators equipped with cartridges designed to protect against amines are recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Yellowish liquid with an amine-like odour; not miscible with water.|Ignition temperature = 380C

Physical state	Liquid	**Relative density (Water = 1)**	1.06
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Applicable
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	200 mPa.s @25C
Initial boiling point and boiling range (°C)	>200	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	>100	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	13.0	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	1.2	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	0.01 @20C	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	0

SECTION 10: STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	➢ Unstable in the presence of incompatible materials. ➢ Product is considered stable. ➢ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". Inhalation of amine vapours may cause irritation of the mucous membrane of the nose and throat, and lung irritation with respiratory distress and cough. Swelling and inflammation of the respiratory tract is seen in serious cases; with headache, nausea, faintness and anxiety. The compound causes intestinal irritation due to its caustic nature. Lower doses may cause impaired appetite, sluggish reaction to stimuli and reduced alertness. High doses may cause eye irritation, excessive tear secretion; difficulty in breathing; lung, liver and kidney damage. Death may also result. The above reflect the results of animal testing. Inhalation of benzyl alcohol may affect breathing (causing depression and paralysis of breathing and lower blood pressure. Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

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Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The material can produce chemical burns with the oral cavity and gastrointestinal tract following ingestion. Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucous. High oral doses of salicylates, such as aspirin, may cause a mild burning pain in the throat and stomach, causing vomiting. This is followed (within hours) by deep, rapid breathing, tiredness, nausea and further vomiting, thirst and diarrhoea. Amines without benzene rings when swallowed are absorbed throughout the gut. Corrosive action may cause damage throughout the gastrointestinal tract. Non-steroidal anti-inflammatory drug (NSAID) overdose may produce nausea, vomiting, indigestion and upper abdominal pain. Other effects may include drowsiness, dizziness, confusion, disorientation, lethargy, "pins and needles", intense headache, blurred vision, ringing in the ears, muscle twitching, convulsions, stupor and coma. Swallowing large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting and diarrhea. It may affect behaviour and/or the central nervous system, and cause headache, sleepiness, excitement, dizziness, inco-ordination, coma, convulsions and other symptoms of central nervous system depression. In newborns, exposure to excessive amounts of benzyl alcohol has been associated with toxicity (low blood pressure and metabolic acidosis), and an increased incidence of severe jaundice leading to nervous system symptoms called kernicterus. Rarely, death may occur. Benzyl alcohol in medications is present in much smaller amounts than in flush solutions. The amount of benzyl alcohol sufficient to cause toxicity is unknown. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Cutaneous reactions include erythema, intolerable itching and severe facial swelling. Undiluted benzene-1,3-dimethanamine may be corrosive to the skin. Concentrated solution of the material produces severe reddening and irritation. Repeated applications of a dilute concentration produce local swelling and redness, and skin sensitisation, which has been reported among workers in plastics manufacturing. Volatile amine vapours produce irritation and inflammation of the skin. Direct contact can cause burns. Open cuts, abraded or irritated skin should not be exposed to this material. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage. Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in "halos" around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Direct eye contact with liquid volatile amines may produce eye damage, permanent for the lighter species.
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Reactions to benzoic acid have been reported. It may worsen asthma, skin rash or skin disease (angio-oedema). Effect may be worse if exposed persons are also taking aspirin tablets. Prolonged use of non-steroidal analgesics damages the lining of the gastrointestinal tract, causing ulcers and bleeding. There may be diarrhoea or constipation, perforations causing serious infection, and blood in the vomit or stools. Chronic exposure to salicylates produce problems with metabolism, central nervous system disturbances, or kidney damage. Those with pre-existing damage to the eye, skin or kidney are especially at risk. Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis (skin inflammation). Prolonged or repeated swallowing may affect behaviour and the central nervous system with symptoms similar to acute swallowing. It may also affect the liver, kidneys, cardiovascular system, the lungs and cause weight loss. Studies in animals have shown evidence of causing birth defects, but the significance of this information in humans is unknown. Benzyl alcohol has not been shown to cause cancer. Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma".

	TOXICITY	IRRITATION
Tradesmans Choice High Solids Epoxy Hardener B	Not Available	Not Available
benzyl alcohol	Dermal (rabbit) LD50: 2000 mg/kg[2]	Eye (rabbit): 0.75 mg open SEVERE
	Inhalation (rat) LC50: 2000 ppm/8hr[2]	Skin (man): 16 mg/48h-mild
	Oral (rat) LD50: 1230 mg/kgd[2]	Skin (rabbit):10 mg/24h open-mild

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	TOXICITY	IRRITATION
isophorone diamine	Oral (rat) LD50: 1030 mg/kg[2]	Not Available
benzene-1,3-dimethanamine	Dermal (rabbit) LD50: 2000 mg/kg[2]	Eye (rabbit): 0.05 mg/24h SEVERE
	Inhalation (rat) LC50: 175 ppm/1hr[2]	Skin (rabbit): 0.75 mg/24h SEVERE
	Oral (rat) LD50: >200 mg/kg[1]	
salicylic acid	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit): 100 mg - SEVERE
	Oral (rat) LD50: 200-2000 mg/kg[1]	Skin (rabbit): 500 mg/24h - mild

Legend: *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from anufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

Tradesmans Choice High Solids Epoxy Hardener B	The salicylates are well absorbed by mouth, and oral bioavailability is assumed to be total. In humans, absorption through skin is more limited. The salicylates are expected to be broken down to salicylic acid, mostly in the liver, and then conjugated with glycine or glucuronide and excreted in the urine. The expected metabolism of the salicylates do not present toxicological concerns. Animal testing shows that acute toxicity by skin contact is very low, while acute toxicity by mouth is moderate. Salicylates do not possess genetic toxicity, and generally do not have the potential to cause cancer. Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain.
ISOPHORONE DIAMINE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.
BENZENE-1,3-DIMETHANAMINE	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
SALICYLIC ACID	For certain benzyl derivatives: The members of this group are rapidly absorbed through the gastrointestinal tract, metabolised primarily in the liver, and excreted primarily in the urine either unchanged or as conjugates of benzoic acid derivatives. At high dose levels, gut micro-organisms may act to produce minor amounts of breakdown products. However, no adverse effects have been reported even at repeated high doses. Similarly, no effects were observed on reproduction, foetal development and tumour potential. A member or analogue of a group of hydroxy and alkoxy-substituted benzyl derivatives generally regarded as safe (GRAS) based in part on their self-limiting properties as flavouring substances in food; their rapid absorption. metabolic detoxification, and excretion in humans and other animals, their low level of flavour use, the wide margin of safety between the conservative estimates of intake and the no-observed-adverse effect levels determined from chronic and subchronic studies and the lack of significant genotoxic and mutagenic potential. This evidence of safety is supported by the fact that the intake of benzyl derivatives as natural components of traditional foods is greater than the intake as intentionally added flavouring substances. All members of this group are aromatic primary alcohols, aldehydes, carboxylic acids or their corresponding esters or acetals. The structural features common to all members of the group is a primary oxygenated functional group bonded directly to a benzene ring. The ring also contains hydroxy or alkoxy substituents.
Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL & ISOPHORONE DIAMINE & BENZENE-1,3-DIMETHANAMINE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact.
Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL	Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and connubial contact dermatitis occurs. Contact allergy is a lifelong condition, so symptoms may occur on re-exposure. Allergic contact dermatitis can be severe and widespread, with significant impairment of quality of life and potential consequences for fitness for work. If the perfume contains a sensitizing component, intolerance to perfumes by inhalation may occur. Symptoms may include general unwellness, coughing, phlegm, wheezing, chest tightness, headache, shortness of breath with exertion, acute respiratory illness, hayfever, asthma and other respiratory diseases.
Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL	Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation. A prehapten is a chemical that itself causes little or no sensitization, but is transformed into a hapten in the skin (bioactivation), usually via enzyme catalysis. It is not always possible to know whether a particular allergen that is not directly reactive acts as a prehapten or a prohapten , or both. Prohaptens: Compounds that are bioactivated in the skin and thereby form haptens are referred to prohaptens. The possibility of a prohapten being activated cannot be avoided by outside measures.
Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL	The aryl alkyl alcohol (AAA) fragrance ingredients have diverse chemical structures, with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic toxicity by skin contact and swallowing. At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin. The potential for eye irritation is minimal. With the exception of benzyl alcohol, phenethyl and 2-phenoxyethyl AAA alcohols, testing in humans indicate that AAA fragrance ingredients generally have no or low sensitization potential. Available data indicate that the potential for photosensitization is low.

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Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL	This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin. They also lack significant potential to cause genetic toxicity and mutations. The intake of benzyl derivatives as natural components of traditional foods is actually higher than the intake as intentionally added flavouring substances.
Tradesmans Choice High Solids Epoxy Hardener B & BENZENE-1,3-DIMETHANAMINE	For benzene-1,3-dimethanamine (m-xylene-alpha,alpha'-diamine): Animal testing showed that benzene-1,3-methanamine caused tissue damage to the digestive and respiratory organs, if given by mouth or inhaled, respectively. The chemical is corrosive to animal skin, and may cause sensitization. Testing has not shown any reproductive toxicity or ability to cause mutations. In humans, it appears to act as a gastrointestinal irritant, and has been shown to cause contact sensitization, even at low concentrations.
Tradesmans Choice High Solids Epoxy Hardener B & ISOPHORONE DIAMINE	Isophorone diamine is a strong skin irritant, corrosive with repeated application. Frequent occupational exposure may lead to the development of allergic skin inflammation. There could be damage to the smell organ, throat and lungs following inhalational exposure. Reduced kidney weight can result. No effects on reproduction gene alteration and cancer formation have been observed.
Tradesmans Choice High Solids Epoxy Hardener B & BENZENE- 1,3-DIMETHANAMINE	Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.
Tradesmans Choice High Solids Epoxy Hardener B & BENZENE- 1,3-DIMETHANAMINE	Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.
Tradesmans Choice High Solids Epoxy Hardener B &BENZENE-1,3-DIMETHANAMINE	Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.
Tradesmans Choice High Solids Epoxy Hardener B & BENZENE- 1,3-DIMETHANAMINE & SALICYLIC ACID	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Tradesmans Choice High Solids Epoxy Hardener B &BENZYL ALCOHOL &ISOPHORONE DIAMINE & SALICYLIC ACID	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles,scaling and thickening of the skin.
Tradesmans Choice High Solids Epoxy Hardener B & BENZYL ALCOHOL	Unlike benzylic alcohols, the beta-hydroxyl group of the members of benzyl alkyl alcohols contributes to break down reactions but do not undergo phase II metabolic activation. Though structurally similar to cancer causing ethyl benzene, phenethyl alcohol is only of negligible concern due to limited similarity in their pattern of activity.
Tradesmans Choice High Solids Epoxy Hardener FEPHS500B & BENZYL ALCOHOL	For benzoates: Benzyl alcohol, benzoic acid and its sodium and potassium salt have a common metabolic and excretion pathway. All but benzyl alcohol are considered to be unharmful and of low acute toxicity. They may cause slight irritation by oral, dermal or inhalation exposure except sodium benzoate which doesn't irritate the skin. Studies showed increased mortality, reduced weight gain, liver and kidney effects at higher doses, also, lesions of the brains, thymus and skeletal muscles may occur with benzyl alcohol. However, they do not cause cancer, genetic or reproductive toxicity. Developmental toxicity may occur but only at maternal toxic level.
Tradesmans Choice High Solids Epoxy Hardener B & ISOPHORONE DIAMINE & BENZENE-1,3-DIMETHANAMINE & SALICYLIC ACID	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases.

Acute Toxicity	**Yes**	**Acute toxicity (any route of exposure)**	<#ToxCatAcute toxicity (any route of exposure)>
Skin Irritation/Corrosion	**Yes**	**Reproductivity**	N/A
Serious Eye Damage/Irritation	**Yes**	**STOT - Single Exposure**	**Yes**
Respiratory or Skin sensitisation	**Yes**	**STOT - Repeated Exposure**	N/A
Mutagenicity	N/A	**Aspiration Hazard**	N/A

Legend: *– **X** Data available but does not fill the criteria for classification*
– YES Data available to make classification
– N/A Data Not Available to make classification

SECTION 12: ECOLOGICAL INFORMATION

Toxicity	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Tradesmans Choice High Solids Epoxy Hardener B	Not Available	Not Available	Not Available	Not Available	Not Available
benzyl alcohol	LC50	96	Fish	10mg/L	4

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Toxicity	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
isophorone diamine	LC50	96	Fish	=70mg/L	1
	EC50	48	Crustacea	17.4mg/L	4
	EC50	72	Algae or other aquatic plants	=37mg/L	1
	EC10	72	Algae or other aquatic plants	=3.1mg/L	1
	NOEC	72	Algae or other aquatic plants	=1.5mg/L	1
benzene- 1,3-dimethanamine	Not Available	Not Available	Not Available	Not Available	Not Available
salicylic acid	LC50	96	Fish	1370mg/L	2
	EC50	48	Crustacea	870mg/L	4
	BCF	96	Algae or other aquatic plants	<50mg/L	4
	NOEC	504	Crustacea	10mg/L	2

Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
For isophorone diamine:
Persistence/Biodegradability: 42% (DOC, OECD 303A) *8.0% (DOC, Die away test -9/69/EEC)*
* [Morton]
Environmental Fate:
Isophorone diamine has a melting point of 10 C, it mixes with water and has a vapour pressure of 0.02 hPa at 20 C. The measured log Kow is 0.99 (23 C). The pKa of approximately 10.4 characterises the substance as a moderate base.
Models calculate the main target compartment for isophorone diamine to be water (99.8 %), followed by sediment and soil (both 0.08 %). Isophorone diamine exhibits very low volatility from surface waters. The sorption potential to soil or sediment organic matter is expected to be moderate. However, as substance is available in the environment as a cation, binding to the matrix of soils with high capacities for cation exchange (e.g. clay) cannot be excluded.
For salicylic acid:
log Kow : 0.35-2.26
BOD5: 0.95,41%
COD : 1.58,100%
ThOD : 1.623
BOD = 141%, 5 days
Environmental fate:
Due to the chemical structure of salicylic acid volatilisation and bioconcentration are not expected to be important environmental fate processes.
Biodegradation is expected to be the dominant removal mechanism of salicylic acid from soil and water. It may also undergo photochemical degradation in sunlit environmental media
In air, it is expected to exist in both the vapor and particulate phase. Vapor phase reaction with photochemically produced hydroxyl radicals may be important (estimated half-life of 1.2 days).
Removal by wet and dry deposition can also occur..
This chemical is not likely to bioconcentrate.
For benzene-1,3-dimethanamine (m-xylene-alpha,alpha'- diamine)
Environmental fate:
The chemical has a log Pow value of 0.18 at 2 a vapour pressure 5 C, of 0.04 hPa at 25 C, and a water solubility of > 100 000 mg/L. Fugacity model Mackay level III calculations suggest that the majority of the chemical would distribute to soil if released to soil and/or air compartment(s), and water if released to aquatic compartment.
The chemical is not readily biodegradable (49% after 28 d) or inherently biodegradable (BOD = 22%, TOC = 6% and analysis in HPLC = 21%) and it does not hydrolyse (half-life >1 y at 25 C).
However, the chemical does not bioaccumulate (BCF < 2.7 at 0.2 mg/L). The chemical will react with carbon dioxide to form the carbamate acid, and will undergo indirect photo-oxidation with hydroxy radicals (T1/2= 5.39 h), and will therefore not persist in the atmosphere.
Ecotoxicity:
Fish LC50 (96 h): Medaka 87.6 mg/l; golden orfe 75 mg/l; rainbow trout >100 mg/l
Daphnia magna EC50 (48 h): 15.2 - 16 mg/l
Daphnia magna EC50 (21 d): 6.77 mg/l (reproduction inhibition); NOEC 4.7 mg/l (reproduction inhibition)
Daphnia magna LC50 (21 d): 8.4 mg/l (parental toxicity)
Algae EbC50: Scenedesmus subspicatus 12 g/l; NOEC 6.25 mg/l; EbC50 Selenastrum capricornutum 20.3 mg/l; NOEC (0-72 h) 10.5 mg/l
For Benzyl Alkyl Alcohols: Log Kow: 1.36 to 2.06; Vapor Pressure: 0.01 to 0.1 hPa (@ room temperature); Water Solubility: >5x10+3 mg/L.
Environmental Fate: Benzyl alkyl alcohols are liquids, under standard temperature and pressure conditions. These substances will partition primarily to the soil, secondarily to the water, and very slightly to the air.
Atmospheric Fate: Benzyl alcohol is expected to exist almost entirely in the vapor phase, in the ambient atmosphere. The estimated half-life for the vapor phase reaction of benzyl alcohol with hydroxyl radicals in the atmosphere is 2 days. Based on its water solubility, it may undergo dissolution into clouds and subsequently be removed from the atmosphere via precipitation.
For Benzyl Derivatives:
Environmental Fate: All members of this group (benzyl, benzoate and 2-hydroxybenzoate (salicylate) esters) contain a benzene ring bonded directly to an oxygenated functional group (aldehyde or ester) that is hydrolysed and/or oxidised to a benzoic acid derivative.
Photodegredation: Benzyl derivatives may undergo photodegredation if exposed to sunlight. The calculated half lives for hydroxyl radical reactions range from 4.7 to 64.5 hours. The calculated photodegradation half-lives for three benzaldehyde derivatives in this chemical category are in the narrow range from 4.7 hours for m-methoxy-p-hydroxybenzaldehyde to 7.2 hours for the less substituted derivative benzaldehyde. The calculated photodegradation half-lives for three benzaldehyde derivatives in this chemical category are in the narrow range from 4.7 hours for m-methoxyphydroxybenzaldehyde to 7.2 hours for the less substituted derivative benzaldehyde . The relative half-lives reflect the increased reactivity of a phenolic OH group.
For benzoates:
The environmental characteristics for benzoates is ultimately determined by the properties of counter-ions, and is assumed to be non-toxic.
Environmental Exposure and Fate: Distribution models indicate that water and soil are the main environmental pathways of benzyl alcohol, benzoic acid, sodium and potassium benzoates. No volalization to the atmosphere or adsorption to sediments is expected. Physical chemical properties and use patterns indicate water to be the main pathway for these substances, however, based on the chemical structure and organic chemistry, no hydrolysis is expected at pH ranges of 4 – 11. Photodegradation is calculated at 50% after 1.3 to 3 days for benzyl alcohol and the benzoates, and measured at 90% after 140 minutes for benzoic acid.
Biodegradation and Bioacumulation: The Benzoates are readily biodegradable under both aerobic and anaerobic conditions.
For benzyl alcohol: log Kow : 1.1Koc : <5Henry's atm m3 /mol: 3.91E-07BOD 5: 1.55-1.6,33-62%COD : 96%ThOD : 2.519BCF : 4
Bioaccumulation: Not significant
Anaerobic Effects: Significant degradation.

Continued…

Effects on algae and plankton: Inhibits degradation of glucose
Degradation Biological: Significant processes
Abiotic: RxnOH*,no photochem
Ecotoxicity: Fish LC50 (48 h): fathead minnow 770 mg/l; (72 h): 480 mg/l; (96 h) 460 mg/l. Fish LC50 (96 h) fathead minnow 10 ppm, bluegill sunfish 15 ppm; tidewater silverside fish 15 ppm.
Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise, but these are less toxic than the product itself.
Prevent, by any means available, spillage from entering drains or water courses.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
benzyl alcohol	LOW	LOW
isophorone diamine	HIGH	HIGH
benzene-1,3-dimethanamine	HIGH	HIGH
salicylic acid	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
benzyl alcohol	LOW (LogKOW = 1.1)
isophorone diamine	LOW (BCF = 3.4)
benzene-1,3-dimethanamine	LOW (BCF = 2.7)
salicylic acid	MEDIUM (BCF = 1000)

Mobility in soil

Ingredient	Mobility
benzyl alcohol	LOW (KOC = 15.66)
isophorone diamine	LOW (KOC = 340.4)
benzene-1,3-dimethanamine	LOW (KOC = 914.6)
salicylic acid	LOW (KOC = 23.96)

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type.

- **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Treat and neutralise at an approved treatment plant.
- Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14: TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	2X

Continued…

Land transport (ADG)

UN number	2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains isophorone diamine)
Transport hazard class(es)	Class 8 Subrisk Not applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions 223 274 Liquid quantity 5 L

Air transport (ICAO-IATA / DGR)

UN number	2735
UN proper shipping name	Amines, liquid, corrosive, n.o.s. * (contains isophorone diamine); Polyamines, liquid, corrosive, n.o.s. * (contains isophorone diamine)
Transport hazard class(es)	ICAO/IATA Class 8 ICAO / IATA Subrisk Not Applicable ERG Code 8L
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions A3 A803 Cargo Only Packing Instructions 856 Cargo Only Maximum Qty / Pack 60 L Passenger and Cargo Packing Instructions 852 Passenger and Cargo Maximum Qty / Pack 5 L Passenger and Cargo Limited Quantity Packing Instructions Y841 Passenger and Cargo Limited Maximum Qty / Pack 1 L

Sea transport (IMDG-Code / GGVSee)

UN number	2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains isophorone diamine)
Transport hazard class(es)	IMDG Class 8 IMDG Subrisk Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	EMS Number F-A , S-B Special provisions 223 274 Limited Quantities 5 L

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15: REGULATORY INFORMATION

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

BENZYL ALCOHOL(100-51-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

ISOPHORONE DIAMINE(2855-13-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

BENZENE-1,3-DIMETHANAMINE(1477-55-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Substances Information System - Consolidated Lists

SALICYLIC ACID(69-72-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

Continued…

Tradesmans Warehouse High Solids Epoxy Hardener B

Version No: **2.1.1.1**
Safety Data Sheet according to WHS and ADG requirements
Issue Date: **19th April 2018**

National Inventory	Status
Australia – AICS	Y
Canada – DSL	Y
Canada – NDSL	N (benzyl alcohol; isophorone diamine; salicylic acid; benzene-1,3-dimethanamine)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (isophorone diamine; salicylic acid; benzene-1,3-dimethanamine)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y

Legend:
Y = All ingredients are on the inventory
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16: OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Tradesmans Warehouse Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations
PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

END OF SDS