
Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

QUICK SET EPOXY ADHESIVE - RESIN #406-9592, 850-934

SYNONYMS

"Manufacturer's Code: 406-9592, 850-934"

PROPER SHIPPING NAME

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains bisphenol A/ epichlorohydrin resin, liquid)

PRODUCT USE

Epoxy resin preparation

SUPPLIER

Company: RS Components Pty Ltd
 Address:
 Units 30 & 31, 761 Great South Road
 Penrose
 Auckland, 1006
 New Zealand
 Telephone: +64 9 526 1600
 Fax: +64 9 579 1700

Company: RS Components Pty Ltd
 Address:
 25 Pavesi Street
 Smithfield
 NSW, 2164
 Australia
 Telephone: +1 300 656 636
 Emergency Tel: 1800 039 008 (24 hours)
 Emergency Tel: +61 3 9573 3112
 Fax: +1 300 656 696

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE**HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.****RISK**

- May form explosive peroxides.
- Irritating to eyes and skin.
- May cause SENSITISATION by skin contact.
- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY

- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Avoid contact with eyes.
- Wear suitable gloves.
- Wear eye/face protection.
- Handle and open container with care.
- Do not empty into drains.
- To clean the floor and all objects contaminated by this material, use water and detergent.
- This material and its container must be disposed of in a safe way.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
- Use appropriate container to avoid environmental contamination.
- Avoid release to the environment. Refer to special instructions/Safety data sheets.
- This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
bisphenol A/ epichlorohydrin resin, liquid	25068-38-6	70-90
phenyl glycidyl ether/ formaldehyde copolymer	28064-14-4	10-30

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh 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.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Treat symptomatically.
-

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

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 water delivered as a fine spray to control fire and cool adjacent area.

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).
- Combustion products include: carbon dioxide (CO₂), aldehydes, other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

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

HAZCHEM

•3Z

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Environmental hazard - contain spillage.
- 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.

MAJOR SPILLS

- Environmental hazard - contain spillage.
- Moderate hazard.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- 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.
- Prevent concentration in hollows and sumps.

SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Avoid reaction with amines, mercaptans, strong acids and oxidising agents.
- Phenols are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides.
- Avoid use of aluminium, copper and brass alloys in storage and process equipment.
- Heat is generated by the acid-base reaction between phenols and bases.
- Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature), these reactions generate heat.

Glycidyl ethers:

- may form unstable peroxides on storage in air, light, sunlight, UV light or other ionising radiation, trace metals - inhibitor should be maintained at adequate levels
- may polymerise in contact with heat, organic and inorganic free radical producing initiators
- may polymerise with evolution of heat in contact with oxidisers, strong acids, bases and amines
- react violently with strong oxidisers, permanganates, peroxides, acyl halides, alkalis, ammonium persulfate, bromine dioxide.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

• bisphenol A/ epichlorohydrin resin,
liquid:

CAS:25068- 38- 6 CAS:25085- 99- 8

• phenyl glycidyl ether/ formaldehyde
copolymer:

CAS:28064- 14- 4 CAS:42616- 71- 7 CAS:59029- 73- 1
CAS:94422- 39- 6

MATERIAL DATA

BISPHENOL A/ EPICHLOROHYDRIN RESIN, LIQUID:

QUICK SET EPOXY ADHESIVE - RESIN #406-9592, 850-934:

- Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat.

Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

BISPHENOL A/ EPICHLOROHYDRIN RESIN, LIQUID:

PHENYL GLYCIDYL ETHER/ FORMALDEHYDE COPOLYMER:

- For epichlorohydrin

Odour Threshold Value: 0.08 ppm

NOTE: Detector tubes for epichlorohydrin, measuring in excess of 5 ppm, are commercially available.

Exposure at or below the recommended TLV-TWA is thought to minimise the potential for adverse respiratory, liver, kidney effects.

Odour Safety Factor (OSF)

OSF=0.54 (EPICHLOROHYDRIN).

PHENYL GLYCIDYL ETHER/ FORMALDEHYDE COPOLYMER:

- for phenyl glycidyl ether (PGE)

The TLV-TWA is based on the dermal toxicity (alopecia) observed in rats after subchronic inhalation exposure at 5 ppm and based on the no-observed-adverse effect-level (NOAEL) in a lifetime rodent inhalation oncogenicity bioassay. This limit is thought to be protective against the significant risk of sensitisation, skin and respiratory tract irritation, testicular damage and liver necrosis.

Toxicological responses to PGE result from repeated, prolonged exposures and are closely associated with total absorbed doses rather than peak concentrations.

PERSONAL PROTECTION**RESPIRATOR**

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

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

■ 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 the 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.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- When handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butadiene rubber), boots and aprons.
- DO NOT use cotton or leather (which absorb and concentrate the resin), polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin).
- DO NOT use barrier creams containing emulsified fats and oils as these may absorb the resin; silicone-based barrier creams should be reviewed prior to use.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Pale yellow liquid with a perceptible odour; insoluble in water.

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	8000- 15000 cSt@40°C
Boiling Range (°C)	>200	Solubility in water (g/L)	Immiscible
Flash Point (°C)	>150	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.17
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS**ACUTE HEALTH EFFECTS****SWALLOWED**

■ The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

■ This material can cause eye irritation and damage in some persons.

SKIN

■ This material can cause inflammation of the skin oncontact in some persons.

The material may accentuate any pre-existing dermatitis condition.

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

CHRONIC HEALTH EFFECTS

■ Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

Glycidyl ethers can cause genetic damage and cancer.

TOXICITY AND IRRITATION

■ 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. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit many common characteristics with respect to animal toxicology. One such oxirane is ethyloxirane; data presented here may be taken as representative.

for 1,2-butylene oxide (ethyloxirane):

Ethyloxirane increased the incidence of tumours of the respiratory system in male and female rats exposed via inhalation.

Significant increases in nasal papillary adenomas and combined alveolar/bronchiolar adenomas and carcinomas were observed in male rats exposed to 1200 mg/m³ ethyloxirane via inhalation for 103 weeks.

Section 12 - ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
bisphenol A/ epichlorohydrin resin, liquid	HIGH	No Data Available	LOW	HIGH
phenyl glycidyl ether/ formaldehyde copolymer	No Data Available	No Data Available	No Data Available	No Data Available

Section 13 - DISPOSAL CONSIDERATIONS

• 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 MSDS 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.

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

• Reduction.

• 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 or consult manufacturer for recycling options.

• Consult State Land Waste Authority for disposal.

• Bury or incinerate residue at an approved site.

• Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



■ *Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;*

(a) *packagings;*

(b) *IBCs; or*

(c) *any other receptacle not exceeding 500 kg(L).*

- *Australian Special Provisions (SP AU01) - ADG Code 7th Ed.*

Labels Required: MISCELLANEOUS

HAZCHEM:

•3Z (ADG7)

ADG7:

Class or Division:	9	Subsidiary Risk:	None
UN No.:	3082	Packing Group:	III
Special Provision:	179 274 331 335 AU01	Limited Quantity:	5 L
Portable Tanks & Bulk Containers -	T4	Portable Tanks & Bulk Containers - Special Provision:	TP1 TP29
Instruction:		Packagings & IBCs - Special Packing Provision:	PP1
Packagings & IBCs -	P001 IBC03 LP01		
Packing Instruction:			

Name and Description: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ epichlorohydrin resin, liquid)

Land Transport UNDG:

Class or division:	9	Subsidiary risk:	None
UN No.:	3082	UN packing group:	III
Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ epichlorohydrin resin, liquid)		

Air Transport IATA:

ICAO/IATA Class:	9	ICAO/IATA Subrisk:	None
UN/ID Number:	3082	Packing Group:	III
Special provisions:	A97		

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ epichlorohydrin resin, liquid)

Maritime Transport IMDG:

IMDG Class:	9	IMDG Subrisk:	None
UN Number:	3082	Packing Group:	III
EMS Number:	F- A, S- F	Special provisions:	274 335
Limited Quantities:	5 L	Marine Pollutant:	Yes
Shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ epichlorohydrin resin, liquid)		

Section 15 - REGULATORY INFORMATION

Indications of Danger:

N	Dangerous for the environment
Xi	Irritant

POISONS SCHEDULE S5

REGULATIONS**Regulations for ingredients**

bisphenol A/ epichlorohydrin resin, liquid (CAS: 25068-38-6,25085-99-8) is found on the following regulatory lists;

"Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling

continued...

of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – United Kingdom"

phenyl glycidyl ether/ formaldehyde copolymer (CAS: 28064-14-4, 42616-71-7, 59029-73-1, 94422-39-6) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)"

No data for Quick Set Epoxy Adhesive - Resin #406-9592, 850-934 (CW: 33-5557)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
bisphenol A/ epichlorohydrin resin, liquid	25068- 38- 6, 25085- 99- 8
phenyl glycidyl ether/ formaldehyde copolymer	28064- 14- 4, 42616- 71- 7, 59029- 73- 1, 94422- 39- 6

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

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)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.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 8-Nov-2012

Print Date: 8-Nov-2012

This is the end of the MSDS.

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

QUICK SET EPOXY ADHESIVE - HARDENER #406-9592, 850-934

SYNONYMS

"Manufacturer's Code: 406-9592, 850-934"

PROPER SHIPPING NAME

AVIATION REGULATED LIQUID, N.O.S.(contains 2,4,6-tris[(dimethylamino)methyl]phenol)

PRODUCT USE

Epoxy hardener preparation.

SUPPLIER

Company: RS Components Pty Ltd
Address:
Units 30 & 31, 761 Great South Road
Penrose
Auckland, 1006
New Zealand
Telephone: +64 9 526 1600
Fax: +64 9 579 1700

Company: RS Components Pty Ltd
Address:
25 Pavesi Street
Smithfield
NSW, 2164
Australia
Telephone: +1 300 656 636
Emergency Tel: 1800 039 008 (24 hours)
Emergency Tel: +61 3 9573 3112
Fax: +1 300 656 696

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.



RISK

- Harmful in contact with skin and if swallowed.
- Irritating to eyes and skin.

SAFETY

- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Avoid contact with eyes.
- Wear suitable protective clothing.
- Wear suitable gloves.
- Wear eye/face protection.
- To clean the floor and all objects contaminated by this material, use water and detergent.
- Keep away from food, drink and animal feeding stuffs.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
- This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
2, 4, 6- tris[(dimethylamino)methyl]phenol	90-72-2	10-30

Section 4 - FIRST AID MEASURES

SWALLOWED

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

EYE

- If this product comes in contact with the eyes:
 - Wash out immediately with fresh 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.
 - Seek medical attention without delay; if pain persists or recurs seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
 - Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- 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.

NOTES TO PHYSICIAN

- 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.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

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 water delivered as a fine spray to control fire and cool adjacent area.

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).
- Combustion products include: carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

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

HAZCHEM

2Z

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- 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.

MAJOR SPILLS

- Moderate hazard.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- 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.
- Prevent concentration in hollows and sumps.

SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- Avoid contact with copper, aluminium and their alloys.
- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- 2, 4, 6- tris[(dimethylamino)methyl]phenol:

CAS:90- 72- 2

MATERIAL DATA

QUICK SET EPOXY ADHESIVE - HARDENER #406-9592, 850-934:

- Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat.

Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL:

- Odour Threshold Value for phenol: 0.060 ppm (detection)

NOTE: Detector tubes for phenol, measuring in excess of 1 ppm, are commercially available.

Systemic absorption by all routes may induce convulsions with damage to the lungs and central nervous system.<</>.

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

CEL TWA: 5 ppm, 54 mg/m³

SKIN

[Rohm & Haas]

PERSONAL PROTECTION**RESPIRATOR**

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

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber.

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 the 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.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE**

Yellow liquid with a characteristic odour; insoluble in water.

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

Alkaline.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Immiscible
Flash Point (°C)	>100	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.13
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ 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.

Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucous. If death does not occur within 24 hours there may be an improvement in the patients condition for 2-4 days only to be followed by the sudden onset of abdominal pain, boardlike abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.

EYE

■ 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.

There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. There may be damage to the cornea. Unless treatment is prompt and adequate there may be permanent loss of vision. Conjunctivitis can occur following repeated exposure.

SKIN

■ Skin contact with the material may be harmful; systemic effects may result following absorption.

The material may accentuate any pre-existing dermatitis condition.

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. Blistering, with weeping of serous fluid, and crusting and scaling may also occur. Individuals exhibiting "amine dermatitis" may experience a dramatic reaction upon re-exposure to minute quantities. Highly sensitive persons may even react to cured resins containing trace amounts of unreacted amine hardener. Minute quantities of air-borne amine may precipitate intense dermatological symptoms in sensitive individuals. Prolonged or repeated exposure may produce tissue necrosis.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

INHALED

■ Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

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". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

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.

Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

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

continued...

individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

TOXICITY AND IRRITATION

■ No significant acute toxicological data identified in literature search.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
2, 4, 6-tris[(dimethylamino)methyl]phenol	HIGH	No Data Available	LOW	LOW

Section 13 - DISPOSAL CONSIDERATIONS

- 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 MSDS 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.

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

- Reduction.
- 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 or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: MISCELLANEOUS

HAZCHEM:

2Z (ADG7)

ADG7:

Class or Division:	9	Subsidiary Risk:	None
UN No.:	3334	Packing Group:	None
Special Provision:	106 274 276	Limited Quantity:	0
Portable Tanks & Bulk Containers - Instruction:	None	Portable Tanks & Bulk Containers - Special Provision:	None

QUICK SET EPOXY ADHESIVE - HARDENER #406-9592, 850-934

Chemwatch Independent Material Safety Data Sheet

Issue Date: 8-Nov-2012

9317SP

CHEMWATCH 33-5556

Version No:2.1.1.1

CD 2012/4 Page 7 of 7

Section 14 - TRANSPORTATION INFORMATION

Packagings & IBCs - Packing Instruction:	N/A	Packagings & IBCs - Special Packing Provision:	None
--	-----	--	------

Name and Description: AVIATION REGULATED LIQUID, N.O.S. Not subject to this Code (see SP 106) (contains 2,4,6-tris[(dimethylamino)methyl]phenol)

Air Transport IATA:

ICAO/IATA Class:	9	ICAO/IATA Subrisk:	None
UN/ID Number:	3334	Packing Group:	-
Special provisions:	A27		

Shipping name: AVIATION REGULATED LIQUID, N.O.S. (contains 2,4,6-tris[(dimethylamino)methyl]phenol)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IMDG

Section 15 - REGULATORY INFORMATION

Indications of Danger:

Xn Harmful

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

2,4,6-tris[(dimethylamino)methyl]phenol (CAS: 90-72-2) is found on the following regulatory lists;

"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals"

No data for Quick Set Epoxy Adhesive - Hardener #406-9592, 850-934 (CW: 33-5556)

Section 16 - OTHER INFORMATION

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

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)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.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 8-Nov-2012

Print Date: 8-Nov-2012

This is the end of the MSDS.