

Material Safety Data Sheet

R105 West System Epoxy Resin

Version 3



Section 1: Identification of the Material and the Supplier

Trade Name : R105 West System Epoxy Resin

Product Code : R105

Recommended Use : Used in conjunction with epoxy curing agent for adhesive and composite applications

Company : ATL Composites

Address : 12-14 Production Ave Ernest 4214

Telephone : +61 7 5563 1222 (Monday-Friday 8:30am-5:00pm)

Emergency telephone number : +61 7 5563 1222 (Monday-Friday 8:30am-5:00pm)

Revision Date : 13th May 2013

Section 2: Hazards Identification

HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous to health according to the criteria of the National Occupational Health and Safety Commission, Australia

Non Dangerous Goods for transport according to ADG-7 (Special Provision AU01)

Hazard Symbol

Xi	Irritant
N	Dangerous for the environment

Risk Phrases

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases

S24	Avoid Contact with skin
S28	After contact with skin, wash immediately with plenty of soap-suds.
S37/39	Wear suitable gloves and eye / face protection.
S61	Avoid release to the environment. Refer to special instructions/ safety datasheet.

Section 3: Composition / Information on Ingredients

Chemical Name	CAS No.	Weight %
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Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) Common Name: Bisphenol A diglycidyl ether polymer	25068-38-6	>60
Phenol, polymer with formaldehyde, glycidyl ether Common Name : Bisphenol F diglycidyl ether polymer	28064-14-4	10 – 30
Benzyl Alcohol	100-51-6	10 – 30

Section 4: First Aid Measures

Inhalation	:	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
Skin contact	:	Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.
Eye contact	:	Flush eyes with plenty of water for 15 minutes while holding eyelids open. Get medical attention.
Ingestion	:	Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.
Workplace facilities	:	Eye wash facilities required. Skin cleaning products should be made available.
Notes to physician Symptoms	:	Irritation of the skin and eyes
Treatment	:	Treat symptomatically. Dermatitis may result from prolonged or repeated exposure.

Section 5: Fire Fighting Measures

Specific hazards during fire Fighting:	Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide. Clear fire area of all non-emergency personnel. Cool fire exposed containers with water. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.
Suitable extinguishing media:	Use water fog, foam, dry chemical or carbon dioxide.

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Special protective equipment for fire-fighters:

Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots). including a positive pressure NIOSH approved selfcontained breathing apparatus.

Section 6: Accidental Release Measures

Personal precautions :

May burn although not readily ignitable.
Use cautious judgement when cleaning up large spills.
Shut off leaks, if possible without personal risk.

Environmental precautions:

Dike and contain.
Contain run-off and dispose of properly.
Remove contaminated soil to remove contaminated trace residues. Prevent from entering into drains, ditches or rivers.

Clean-up methods - small spillage:

Soak up with an absorbent such as clay, sand or other suitable material.
Place in non-leaking container.
Seal tightly for proper disposal.

Clean-up methods – large spillage:

Remove with vacuum trucks or pump to storage/salvage vessels.
Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal.
Flush area with water to remove trace residue.

Section 7: Handling and Storage

Advice on safe handling :

Avoid prolonged or repeated contact with skin, eyes and clothing. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. WARNING. May cause skin and eye irritation. May cause skin sensitization.
Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing before reuse. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

Storage

Requirements for storage areas and containers:

Store in a cool, dry place with adequate ventilation. Keep containers closed when not in use. Keep away from open flames and high temperatures.

Section 8: Exposure Controls / Personal Protection

Workplace exposure standards: No exposure standards have been established for product components.

Protective measures :

Wear protective clothing specified for normal operations.

Eye protection :

Avoid contact with eyes.
Wear chemical goggles if there is potential contact with eyes.
Safety spectacles

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Hand protection	:	Butyl EVAL-Laminate
Skin and body protection:		Wear chemical-resistant gloves and other clothing as required to minimise contact.
Respiratory protection :		No respiratory protection is usually required under normal conditions of use. Product is not intended for spray application.

Section 9: Physical and Chemical Properties

Form	:	Liquid
Colour	:	Clear to pale yellow
Odour	:	Mild
pH	:	Not available
Melting Point	:	Not Determined
Boiling Point	:	>200°C
Flash Point	:	>100°C (ASTM D-93 / PMCC)
Vapour Pressure	:	Heavier than air.
Density	:	1.10 to 1.15
Solubility in water	:	Not miscible

Section 10: Stability and Reactivity

Conditions to avoid	:	Avoid high temperatures.
Materials to avoid	:	Can react vigorously with strong oxidizing agents, strong lewis or mineral acid, and strong mineral and organic bases. Avoid contact with water or liquids. Do not allow molten product to contact water or other liquids. Reaction with some curing agents may produce considerable heat and possible violent decomposition.
Hazardous reactions	:	Stable under normal use conditions. Hazardous polymerization will not occur.

Section 11: Toxicological Information

Acute oral toxicity	:	LD50 - Low toxicity, LD50 > 2000 mg/kg.
Acute dermal toxicity	:	LD50 - Low toxicity, LD50 > 2000 mg/kg.
Acute inhalation toxicity :		LC50 - Expected to be of low toxicity, LC50 > 5 mg/l., If mists are inhaled, slight irritation of the respiratory tract may occur.
Eye irritation	:	Slightly irritating to the eyes.
Skin irritation	:	Expected to be irritant.

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Sensitization	:	Skin sensitiser.
Repeated dose toxicity	:	Repeated exposure does not cause significant toxic effects.
Carcinogenicity	:	Recent 2-year bioassays in rats and mice exposed by the dermal route to the diglycidyl ether of bisphenol A (BADGE) yielded no evidence of carcinogenicity to the skin or any other organs.

Potential Health Effects

Inhalation	:	Not expected to be a relevant route of exposure, however, under conditions where exposure to vapors or mists is possible, could cause respiratory tract irritation.
Skin	:	May be mildly irritating to the skin. May cause skin sensitization.
Eyes	:	May be mildly irritating to the eyes.
Ingestion	:	Not likely to be a relevant route of exposure.

Section 12: Ecological Information

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Measured log octanol/water partition coefficient (log Pow) is 3.7-3.9. Potential for mobility in soil is low (Koc between 500 and 2000). Soil organic carbon/water partition coefficient (Koc) is estimated to be 1800-4400. Henry's Law Constant (H) is estimated to be $<6.94\text{E-}09$ atm-m³/mole. Log octanol/water partition coefficient (log Pow) is estimated, using a structural fragment method, to be 3.84.

DEGRADATION & PERSISTENCE: Theoretical oxygen demand (ThOD) is calculated to be 2.35 p/p. In the atmospheric environment, material is estimated to have a tropospheric half-life of 1.92 hr. Biodegradation reached in Modified Zahn-Wellens/EMPA Test. (OECD Test No. 302B) after 28 days: 12%. The 20-Day Biochemical Oxygen Demand (BOD20) is $<2.5\%$.

ECOTOXICOLOGY: Material is moderately toxic to aquatic organisms on an acute basis (LC50 or EC50 between 1 and 10 mg/L in the most sensitive species tested). Acute LC50 in water flea Daphnia magna is 1.3 mg/L. Acute LC50 in fathead minnow (Pimephales promelas) is 3.1 mg/L. Toxicity to aquatic species occurs at concentrations greater than water solubility. Maximum acceptable toxicant concentration (MATC) in water flea Daphnia magna is 0.55 mg/L. Growth inhibition threshold in bacteria is >42.6 mg C/L. Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is >100 mg/L.

Section 13: Disposal Considerations

DISPOSAL	:	DO NOT DUMP INTO ANY SEWERS, ON THE GROUND,
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OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations.

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

Section 14: Transport Information

Not subject to the ADG Code when transported by Road or Rail. (ADG 7, Special Provision AU01)

IMDG/IATA

Proper Shipping Name	:	Environmentally hazardous substance, liquid, n.o.s
UN Number	:	3082
Class	:	9
Subsidiary risk	:	None assigned
EPG card	:	8A1
Packaging group	:	III

HAZCHEM CODE	:	3Z
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Section 15: Regulatory Information

The principal components and additives of this product are included in the Australian Inventory of Chemical Substances (AICS) or comply with the requirements of the Industrial Chemicals (Notification and Assessment) Act 1989.

Poisons Schedule	S5
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Hazard Category	HAZARDOUS SUBSTANCES CLASSIFICATION: Irritant. Sensitiser.
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Packaging & Labelling	Product is labelled in accordance with the Code of Practice for Labelling Workplace Substances.
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Section 16: Other Information

Contact

Person/Point

PRODUCT INFORMATION MANAGER:	(+61) 7 5563 1222 12-14 Production Av Ernest
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.