Safety Data Sheet

Date of Issue: September 26
(Supersedes September 21)

1545 Part A

Section 1: Identification of the substance/mixture and of the supplier

Product Name:	1545 Part A.
Product Use:	High chemical resistance epoxy protective coating when mixed with 1545 Part B.
Pack Size:	7.50 litres.
Company:	Real World Epoxies Pty Ltd
Address:	U19/10 Miltiadis Street Acacia Ridge QLD 4110
Emergency Phone:	0408 877 256

Section 2: Hazards Identification

GHS Classification:

Skin Irritation:	Category 2.
Skin Sensitisation:	Category 1.
Eye Damage/Irritation:	Category 2A.
Chronic Aquatic Toxicity:	Category 2.

GHS Label:



Signal Word: Warning

Precautionary Statements:
Hazards:
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

Prevention:
P261 - Avoid breathing dust/fumes/gas/mist/vapours/spray.
P264 - Wash skin thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release into the environment.
P280 - Wear protective gloves/eye protection/face protection.

Response:
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see supplement first aid instructions on this label).
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.

Disposal:
P501 - Dispose of contents/container in accordance with local and federal regulations.

General:
P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.

Section 3: Composition/information on ingredients

INGREDIENT	CAS NUMBER	PROPORTION %
Phenol/formaldehyde/epichlorohydrin copolymer	9003-36-5	>60
The remaining products are trade secrets		to 100

Section 4: First-aid measures

General Advice:	Seek medical advice. If breathing has stopped or is laboured give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped begin cardiopulmonary resuscitation immediately.
Ingestion:	DO NOT INDUCE VOMITING. Immediately wash out mouth with water. In general no treatment is necessary unless large quantities are ingested, however, seek medical attention.
Inhalation:	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop and persist seek medical attention.
Skin Contact:	Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.
Eye Contact:	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention, preferably an ophthalmologist. Suitable emergency eye wash facilities should be available in the work area.
Advice to Doctor:	Treat symptomatically.
Other:	For advice, contact a Poisons Information Center, e.g. Australia 131 126.

Section 5: Fire-fighting measures

Suitable Extinguishing Equipment:	Use water spray, foam or dry chemical to fight fire.
Hazards Arising from Chemical:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolics, Carbon Monoxide, Carbon Dioxide. Not susceptible to explosion.
Protective Equipment for Firefighters:	Full protective clothing and self-contained breathing apparatus required.

Section 6: Accidental release measures

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
Environmental Precautions:	Do not allow to enter sewers or drainage. Construct a dike with absorbent, liquid-binding material to prevent spreading.
Methods for Clean Up:	Scrape up and place in suitable container for disposal. Wash area with solvent. Dispose of material as contaminated waste in accordance with local and federal regulations.

Section 7: Handling and storage

Handling:	General good practice required. Ensure adequate ventilation. Avoid prolonged or repeated contact with the skin. Avoid contact with the eyes. Wash hands thoroughly after handling.
Storage:	Store in a cool, dry location away from direct heat. Keep lids sealed tightly. Store away from incompatible materials.

Section 8: Exposure controls and personal protection

Exposure Standards:	No exposure standards have been established for this material by the Australian National Occupational Health and Safety Commission (NOHSC) or the Occupational Safety and Health Service (OHS) of the New Zealand Department of Labour.
Engineering Controls:	Mechanical local exhaust at point of contaminant release if conditions warrant.
Personal Protection:	Where ventilation is inadequate the use of an Air Purifying Respirator with a replaceable organic vapour filter complying with AS/NZS 1715 and AS/NZS 1716 is recommended. Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337. Wear gloves of impervious material such as impervious PVC or rubber gloves. Reference should be made to AS/NZS 2161.1. Suitable work wear should be worn to protect personal clothing. Industrial clothing should conform to the specifications detailed in AS/NZS 2919.

Section 9: Physical and chemical properties

Appearance:	Grey paste.		
Packaging:	10-litre plastic container with press fit lid.		
Odour:	Characteristic epoxy odour.	Odour Threshold:	Not determined.
pH:	Not determined.	Melting/Freezing Point:	Not determined.
Initial Boiling Point:	Not determined.	Boiling Point Range:	>200°C.
Flashpoint:	>100°C.	Evaporation Rate:	Not determined.
Flammability:	Not applicable.	Flammability Limits:	Not applicable.
Vapour Pressure:	<0.001 kPa @ 20°C.	Vapour Density:	Not determined.
Relative Density:	1.5kg/L	Solubility in Water:	Partly miscible.
Partition Co-efficient:	Not determined.	Auto ignition Temp:	Not applicable.
Decomposition Temp.:	Not determined.	Viscosity:	Not determined.

Section 10: Stability and reactivity

Reactivity:	Can react vigorously with strong oxidizing agents, strong lewis or mineral acids and organic bases.
Chemical Stability:	The product is stable under normal conditions.
Conditions to Avoid:	Mixing large volumes of Part A and Part B - expect a significant exotherm within 20-25 minutes at 25°C.
Incompatible Materials:	Avoid contact with strong acids and bases, oxidising agents.
Hazardous Decomposition Products:	Carbon Monoxide.

Section 11: Toxicological information

Likely Routes of Exposure:

Effects on Eye - Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
Effects on Skin - The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either produces moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant, but moderate, inflammation when applied to the healthy intact skin of animals (for up to four hours), such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (non-allergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. 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, puncture wounds 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.
Inhalation Effects - Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.
Ingestion Effects - Accidental ingestion of the material may be damaging to the health of the individual.
High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort. At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver). Signs may include nausea, stomach pains, low fever, loss of appetite, dark urine, clay-coloured stools, jaundice (yellowing of the skin or eyes).
At sufficiently high doses the material may be nephrotoxic (i.e. poisonous to the kidney).

Acute Toxicity:	Oral - LD50 Rat >5,000mg/kg. (For epoxy polymer. No data available on mixture)
Skin Corrosion/Irritation:	Irritating to skin. (For epoxy polymer. No data available on mixture)
Eye Damage/Irritation:	Irritating effect. (For epoxy polymer. No data available on mixture)
Respiratory or Skin Sensitisation:	Possible sensitisation through skin contact. (For epoxy polymer. No data available on mixture)
Germ Cell Mutagenicity:	No specific data available.
Carcinogenicity:	No applicable toxicity data.
Reproductive Toxicity:	No applicable toxicity data.
STOT-single Exposure:	No applicable toxicity data.
STOT-repeated Exposure:	No applicable toxicity data.
Aspiration Hazard:	No applicable toxicity data.

Section 12: Ecological information

Toxicity:

Toxic 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 bisphenol A and related bisphenols: In general, studies have shown that bisphenol A can affect growth, reproduction and development in aquatic organisms. Among freshwater organisms, fish appear to be the most sensitive species. Evidence of endocrine-related effects in fish, aquatic invertebrates, amphibians and reptiles has been reported at environmentally relevant exposure levels lower than those required for acute toxicity. There is a widespread variation in reported values for endocrine-related effects, but many fall in the range of 1ug/L to 1mg/L Bisphenol A, its derivatives and analogues, can be released from polymers, resins and certain substances by metabolic products. As an environmental contaminant, bisphenol A interferes with nitrogen fixation at the roots of leguminous plants associated with the bacterial symbiont Sinorhizobium meliloti. Despite a half-life in the soil of only 1-10 days, its ubiquity makes it an important pollutant.
According to Environment Canada, “initial assessment shows that at low levels, bisphenol A can harm fish and organisms over time. Studies also indicate that it can currently be found in municipal wastewater.” However, a study conducted in the United States found that 91-98% of bisphenol A may be removed from water during treatment at municipal water treatment plants.

A 2009 review of the biological impacts of plasticisers on wildlife published by the Royal Society with a focus on annelids (both aquatic and terrestrial), molluscs, crustaceans, insects, fish and amphibians concluded that bisphenol A has been shown to affect reproduction in all studied animal groups, to impair development in crustaceans and amphibians and to induce genetic aberrations. A large 2010 study of two rivers in Canada found that areas contaminated with hormone-like chemicals including bisphenol A showed females made up 85 per cent of the population of a certain fish, while females made up only 55 per cent in uncontaminated areas. Although abundant data are available on the toxicity of bisphenol-A (2,2-bis (4-hydroxydiphenyl) propane;(BPA) A variety of BPs were examined for their acute toxicity against Daphnia magna, mutagenicity, and oestrogenic activity using the Daphtoxkit (Creasel Ltd.), the umu test system, and the yeast two-hybrid system, respectively, in comparison with BPA. BPA was moderately toxic to D.magna (48-h EC50 was 10 mg/l) according to the current U.S. EPA acute toxicity evaluation standard, and it was weakly oestrogenic with 5 orders of magnitude lower activity than that of the natural estrogen 17 beta-oestradiol in the yeast screen, while no mutagenicity was observed. All seven BPs tested here showed moderate to slight acute toxicity, no mutagenicity, and weak oestrogenic activity as well as BPA. Some of the BPs showed considerably higher oestrogenic activity than BPA, and others exhibited much lower activity. Bisphenol S (bis(4-hydroxydiphenyl) sulfone) and bis(4-hydroxyphenyl)sulfide) showed oestrogenic activity. Biodegradation is a major mechanism for eliminating various environmental pollutants. Studies on the biodegradation of bisphenols have mainly focused on bisphenol A. A number of BPA-degrading bacteria have been isolated from enrichments of sludge from wastewater treatment plants. The first step in the biodegradation of BPA is the hydroxylation of the carbon atom of a methyl group or the quaternary carbon in the BPA molecule. Judging from these features of the biodegradation mechanisms, it is possible that the same mechanism used for BPA is used to biodegrade all bisphenols that have at least one methyl or methylene group bonded at the carbon atom between the two phenol groups. However, bisphenol F ([bis(4-hydroxyphenyl)methane; BPF), which has no substituent at the bridging carbon, is unlikely to be metabolised by such a mechanism. Nevertheless BPF is readily degraded by river water microorganisms under aerobic conditions. From this evidence, it was clear that a specific mechanism for biodegradation of BPF does exist in the natural ecosystem, Algae can enhance the photodeg radation of bisphenols. The photodegradation rate of BPF increased with increasing algae concentration. Humic acid and Fe3+ ions also enhanced the photodegradation of BPF. The effect of pH value on the BPF photodegradation was also important. Environmental toxicity is a function of the n-octanol/ water partition coefficient (log Pow, log Kow). Phenols with log Pow >7.4 are expected to exhibit low toxicity to aquatic organisms. However the toxicity of phenols with a lower log Pow is variable, ranging from low toxicity (LC50 values >100mg/l) to highly toxic (LC50 values <1 mg/l) dependent on log Pow, molecular weight and substitutions on the aromatic ring. Dinitrophenols are more toxic than predicted from QSAR estimates. Hazard information for these groups is not generally available. DO NOT discharge into sewer or waterways.

Persistence and Degradability:	Not available.
Bioaccumulative Potential:	Not available.
Mobility in Soil:	Not available.
Other Adverse Effects:	None known.

Section 13: Disposal considerations

Disposal Methods:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Residual Part A can be mixed with Part B to harden before disposal. Use industrial disposal. Comply with local, state and federal laws and regulations.

Section 14: Transport information

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class:	9
UN/ID No:	UN 3082
Packing Group:	III
Hazchem:	3Z
Marine Pollutant:	Yes.

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

IATA
Not restricted when transported by air (IATA DGR 4.4 Special Provision A197).

IMDG
Non-regulated goods when transported by sea (IMDG Code 2.10.2.7).

Section 15: Regulatory information

Australia: Classified as hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC).

Section 16: Other relevant information

Technical Services Information Officer: 0408 877 256

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