

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**1.1 Product identifier**

**Product name**            **HYSOL RE2038 GAL**  
**Synonym(s)**            *NSN: 8040-00-987-3137*  
                                  RE2038, MFG: HENKEL CHEMICAL

**1.2 Uses and uses advised against**

**Use(s)**                    AVIATION APPLICATIONS • ENCAPSULATING AGENT • EPOXY RESIN SYSTEM

**1.3 Details of the supplier of the safety data sheet**

**Supplier name**        **AEROSPACE COMPOSITES**  
**Address**               Suite 203434 St Kilda Road, VIC, Australia, 3004  
**Telephone**            (03) 9866 8641  
**Fax**                     (03) 9867 1886  
**Email**                 aerospacecomp@bigpond.com  
**Website**              http://www.aerospacecomposites.com.au

**1.4 Emergency telephone number(s)**

**Emergency**            13 11 26 (Poisons Information Centre)

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS Classification(s)**    Flammable Liquids: Category 4  
                                  Acute Toxicity: Oral: Category 4  
                                  Skin Corrosion/Irritation: Category 2  
                                  Skin Sensitization: Category 1  
                                  Serious Eye Damage / Eye Irritation: Category 2A  
                                  Acute Toxicity: Inhalation: Category 4  
                                  Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
                                  Germ Cell Mutagenicity: Category 2  
                                  Carcinogenicity: Category 2  
                                  Aquatic Toxicity (Chronic): Category 2

**2.2 Label elements**

**Signal word**  
**Pictograms**

**WARNING**



**Hazard statement(s)**

H227                    Combustible liquid.  
 H302                    Harmful if swallowed.  
 H315                    Causes skin irritation.  
 H317                    May cause an allergic skin reaction.  
 H319                    Causes serious eye irritation.  
 H332                    Harmful if inhaled.  
 H335                    May cause respiratory irritation.  
 H341                    Suspected of causing genetic defects.  
 H351                    Suspected of causing cancer.  
 H411                    Toxic to aquatic life with long lasting effects.

**Product name** HYSOL RE2038 GAL

**Prevention statement(s)**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment. This statement does not apply where this is the intended use.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment is advised - see first aid instructions.
- P330 Rinse mouth.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before re-use.
- P370 + P378 In case of fire: Use appropriate media for extinction (applies if water increases risk).
- P391 Collect spillage.

**Storage statement(s)**

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed (applies if the substance is volatile so as to generate a hazardous atmosphere).
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

**Disposal statement(s)**

- P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other Hazards**

No information provided.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

**3.1 Substances / Mixtures**

Ingredient	CAS number	EC number	Content
BISPHENOL-A-(EPICHLORHYDRIN), REACTION PRODUCT	25068-38-6	500-033-5	>60%
N-BUTYL GLYCIDYL ETHER	2426-08-6	219-376-4	10-30%

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

- Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
- Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
- Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
- Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
- First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

**Product name** HYSOL RE2038 GAL

Irritating to the eyes and skin. May cause sensitisation by skin contact.

#### **4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

## **5. FIREFIGHTING MEASURES**

### **5.1 Extinguishing media**

Dry agent, carbon dioxide or water fog. Prevent contamination of drains and waterways.

### **5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition.

### **5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### **5.4 Hazchem code**

●3Z

- Alcohol resistant foam is the preferred firefighting medium
- 3 Foam
- Z Self Contained Breathing apparatus and protective gloves.

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Store as a Class C1 Combustible Liquid (AS1940).

### **7.3 Specific end use(s)**

No information provided.

## **8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

### **8.1 Control parameters**

#### **Exposure standards**

Substance	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
n-Butyl glycidyl ether (BGE)	SWA (AUS)	25	133	--	--

#### **Biological limits**

No biological limit values have been entered for this product.

**Product name** HYSOL RE2038 GAL

## 8.2 Exposure controls

**Engineering Controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

### PPE

**Eye/Face** Wear splash-proof goggles.  
**Hand** Wear viton (R) or nitrile gloves.  
**Body** Wear coveralls. If spraying, with prolonged use, or if in confined areas, wear impervious coveralls.  
**Respiratory** Wear a Type A (Organic vapour) respirator. If sanding dry product, wear a Class P1 (Particulate) respirator. If spraying, with prolonged use, or if in confined areas, wear an Air-line respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	YELLOW LIQUID
<b>Odour</b>	AROMATIC ODOUR
<b>Odour Threshold</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Melting Point</b>	NOT AVAILABLE
<b>Boiling Point</b>	> 100°C
<b>Flash Point</b>	73°C
<b>Evaporation Rate</b>	NOT AVAILABLE
<b>Flammability</b>	CLASS C1 COMBUSTIBLE
<b>Upper Explosion Limit</b>	NOT AVAILABLE
<b>Lower Explosion Limit</b>	NOT AVAILABLE
<b>Vapour Pressure</b>	0.4 kPa @ 25°C
<b>Vapour Density</b>	4.5 (Air = 1)
<b>Solubility (water)</b>	INSOLUBLE
<b>Partition Coefficient</b>	NOT AVAILABLE
<b>Autoignition Temperature</b>	NOT AVAILABLE
<b>Decomposition Temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive Properties</b>	NOT AVAILABLE
<b>Oxidising Properties</b>	NOT AVAILABLE
<b>Specific Gravity</b>	1.13

### 9.2 Other information

**% Volatiles** NOT AVAILABLE

Product name HYSOL RE2038 GAL

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide) and aliphatic amines.

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Health hazard summary

Irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Irritating to the eyes and skin. May cause sensitisation by skin contact. The cured product is considered non toxic. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

#### Eye

Irritant. Contact may result in irritation, lacrimation, pain and redness.

#### Inhalation

Irritant. Over exposure whilst curing may result in irritation of the nose and throat, coughing, possible sensitisation with asthma-like symptoms and pulmonary oedema at high levels.

#### Skin

Irritant. Contact may result in irritation, redness, rash and dermatitis. May cause sensitisation by skin contact.

#### Ingestion

May be harmful. Ingestion may result in gastrointestinal irritation, nausea, vomiting, headache and diarrhoea.

#### Toxicity data

BISPHENOL-A-(EPICHLORHYDRIN), REACTION PRODUCT (25068-38-6)

LD50 (Ingestion): 2 - 19 g/kg (rat)

LD50 (Intraperitoneal): 2.2 g/kg (rat)

LD50 (Skin): > 20 mL/kg (rabbit)

N-BUTYL GLYCIDYL ETHER (2426-08-6)

LC50 (Inhalation): 260 mg/m<sup>3</sup> (mouse)

LD50 (Ingestion): 1530 mg/kg (mouse)

LD50 (Intraperitoneal): 700 mg/kg (mouse)

LD50 (Skin): 2520 uL/kg (rabbit)

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Results of PBT and vPvB assessment

No information provided.

### 12.6 Other adverse effects

No information provided.

Product name HYSOL RE2038 GAL

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For large quantities, contact the manufacturer/supplier for additional information. Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO)
<b>14.1 UN number</b>	3082	3082	3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.		
<b>14.3 Transport hazard classes</b>			
<b>DG Class</b>	9	9	9
<b>Subsidiary risk(s)</b>	None Allocated	-	-
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>		None Allocated	
<b>14.6 Special precautions for user</b>			
<b>Hazchem Code</b>	•3Z		
<b>EMS</b>		F-A, S-F	

**15. REGULATORY INFORMATION**

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

**Poison schedule** Classified as a Schedule 5 Poison using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**  
 Carc. - Carcinogen  
 Muta. - Mutagen  
 N - Dangerous for the environment  
 Xi - Irritant  
 Xn - Harmful

**Risk phrases**

R20/22:	Harmful by inhalation and if swallowed.
R36/37/38:	Irritating to eyes, respiratory system and skin.
R40:	Limited evidence of a carcinogenic effect.
R43:	May cause sensitisation by skin contact.
R51/53:	Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
R68:	Possible risks of irreversible effects.

**Safety phrases**

S2:	Keep out of reach of children.
S24/25:	Avoid contact with skin and eyes.
S28:	After contact with skin, wash immediately with plenty of water.
S37/39:	Wear suitable gloves and eye/face protection.

**Inventory listing(s)**

**Product name** HYSOL RE2038 GAL

**AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**

All components are listed on AICS, or are exempt.

**15.2 Chemical safety assessment**

No information provided.

**16. OTHER INFORMATION**

**Additional information** WELDING - SANDING - CUTTING DRIED OR CURED PRODUCT: If sanding, cutting or welding dried or cured product, adverse health effects may be avoided by the use of appropriate engineering controls and/or personal protective equipment. If welding, wear a Class P2 (Metal fume) respirator and depending on the nature of the surface being welded, additional protection (e.g. for organic vapours/acid gas) may also be required. A Class P1 (Particulate) respirator is recommended if dust is generated.

EPOXY RESINS: Epoxy resins may contain low concentrations of glycidal ethers and/or epichlorohydrin, which are potential sensitising agents, both skin and respiratory. Epichlorohydrin is classified as probably carcinogenic to humans (IARC Group 2A).

EPOXY - PHENOXY RESINS AND POLYURETHANES: Where spray painting with two or more component epoxy resins or polyurethane paints is undertaken, an employee shall wear a full face air-line respirator, full length chemically resistant coveralls and gloves. Further, if an individual is to enter an enclosed booth where a vapour or gas curing process is occurring, an air-line respirator is required. Once cured, these resins are considered non toxic.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

COLOUR RATING SYSTEM: RMT has assigned all ChemAlert reports a colour rating of Green, Amber or Red for the sole purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all ChemAlert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline, a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

While all due care has been taken by RMT in the preparation of the Colour Rating System, it is intended as a guide only and RMT does not provide any warranty in relation to the accuracy of the Colour Rating System. As far as is lawfully possible, RMT accepts no liability or responsibility whatsoever for the actions or omissions of any person in reliance on the Colour Rating System.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

**Product name**                    **HYSOL RE2038 GAL**

ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report Status**                    This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

**Prepared By**                    Risk Management Technologies  
 5 Ventnor Ave, West Perth  
 Western Australia 6005  
 Phone: +61 8 9322 1711  
 Fax: +61 8 9322 1794  
 Email: info@rmt.com.au  
 Web: www.rmt.com.au

**Last Reviewed:** 12 Jun 2014  
**Date Printed:** 11 Mar 2015  
**Based on SDS dated:** 12 Jun 2014

**End of Report**