

1. IDENTIFICATION OF PREPARATION

Product Code and Names:

67412 – Epirok EP1 (Component B)	67422 – Epirok HBC (Component B)	67432 – Epirok SLS (Component B)
67442 – Epirok HDS (Component B)	67461 – Epirok CPC (Component B)	67482 – Epirok DSC (Component B)

Chemical Name: Hydrocarbon Resin.
Modified Polyamide.

Identification of Company:

<p>CHINA: Terraco Architectural Coatings China Co., Ltd. Tel: +86 (0)20 8759 4742 Fax: +86 (0)20 8526 8056 E-mail: sales@terraco.com.cn Web: www.terraco.com.cn</p> <p>Terraco Chemical (Shanghai) Co., Ltd. Tel: +86 (0)21 621020 48 / 18 Fax: +86 (0)21 625205 47 Email: sales@terraco.com.cn Web: www.terraco.com.cn</p> <p>EGYPT: Terraco Egypt Chemical Industries S.A.E. Tel: +20 (0)22 29184 53 / 57 / 58 Fax: +20 (0)22 29184 80 E-mail: terraco@terraco.com.eg Web: www.terraco.com.eg</p> <p>JORDAN: Jordan Swedish Polymers Industrial Corp. Tel: +962 (0)6 553 8751 Fax: +962 (0)6 553 6560 E-mail: terraco@nol.com.jo Web: www.terraco.jo</p> <p>IRELAND: Terraco Technical Centre, Ireland Tel: +353 (0) 404 66555 Fax: +353 (0) 404 66654 E-mail: technical-centre@terraco.com Web: www.terraco.com</p>	<p>PAKISTAN: Terraco Pakistan Pvt. Ltd. Tel: +92 (0)42 3529 70 56-8 Fax: +92 (0)42 3529 70 55 Email: terraco@terraco.pk Web: www.terraco.com</p> <p>ROMANIA: Terraco Romania SRL Tel: +40 (0)749 203 133 Fax: +40 (0)318 148 810 E-mail: ahaque@terraco.com Web: www.terraco.com</p> <p>RUSSIA: OOO Terraco Sweden Ltd, Russia Tel: +7 (0)495 9212 237 Fax: +7 (0)495 6273 881 E-mail: adm@terraco.ru Web: www.terraco.ru</p> <p>OOO Terraco Vostok Ltd Tel: +7 (0)4212 410563 Fax: +7 (0)4212 410591 E-mail: terracovostok@terraco.khn.ru Web: www.terraco.com</p> <p>SOUTH KOREA: Terraco Korea Co., Ltd Tel: +82 (0) 2 5611 551 Fax: +82 (0)2 5671 771 E-mail: terraco@terraco.co.kr Web: www.terraco.co.kr</p>	<p>THAILAND: Terraco Industry (Thailand) Limited Tel: +66 (0)2 946 68 56 / 58 Fax: +66 (0)2 946 68 59 E-mail: terraco@terraco.co.th Web: www.terraco.com</p> <p>TURKEY: Terraco Yapi Malzemeleri Sanayi Ve Ticaret AS Tel: +90 (0)222 236 0423 Fax: +90 (0)222 236 0425 E-mail: terraco@terraco.com.tr Web: www.terraco.com.tr</p> <p>UAE: Terraco UAE Ltd Tel: +971 (0)4 326 2699 Fax: +971 (0)4 326 2733 E-mail: terraco@terraco.ae Web: www.terraco.com</p> <p>UK: ADDAGRIP Tel: +44 (0)1825 761 333 Fax: +44 (0)1825 768 566 E-mail: sales@addagrip.co.uk Web: www.addagrip.co.uk / www.terraco.com</p> <p>VIETNAM: Terraco Vietnam Co., Ltd Tel: +84 (0)650 3 820 100 Fax: +84 (0)650 3 820101 E-mail: terraco@terraco.com.vn Web: www.terraco.com</p>
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Amount	CAS Number
Benzyl alcohol	>40%	100-51-6
Triethylenetetramine	<10%	112-24-3
Formaldehyde polymer with toluene	<50%	25155-81-1
Toluene	<2%	108-88-3

3. HAZARDS IDENTIFICATION

Potential Health Effects:	
Skin:	Harmful in contact with skin. If absorbed through skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Causes skin irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Inhalation:	May cause nose, throat, and lung irritation. Inhalation of vapours and/or aerosols in high concentration may cause irritation of respiratory system. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.
Eyes:	Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. Exposed individuals may see rings around bright lights. This effect is temporary and has no known residual effect. Product vapour cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere. Contact with eyes may cause irritation.
Ingestion:	May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.
Chronic Health Hazard:	This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. May cause allergic skin reaction.
Exposure Guidelines:	
Target Organs:	Skin, eyes and central nervous system.
Symptoms:	Repeated and/or prolonged exposure to low concentrations of vapour and/or aerosols may cause: Sore throat.
Aggravated Medical Condition:	
Neurological disorders, skin disorders, skin allergies and eye disease.	

4. FIRST AID MEASURES

General:	Seek medical advice. If breathing has stopped or is laboured, give assisted respiration. Supplemental oxygen may be required. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
Eye contact:	Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.
Skin contact:	Wash off immediately with plenty of water for at least 20 minutes. Wash off with soap and water. Immediately remove contaminated clothing, and any extraneous chemical, if possible do so without delay. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.
Ingestion:	Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.
Inhalation:	If breathing has stopped or is laboured, give assisted respiration. Supplemental oxygen may be required. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Alcohol-resistant foam. Carbon dioxide (CO ₂). Dry chemical. Dry sand. Limestone powder.
Specific hazards:	May generate ammonia gas and toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO _x) is to be expected. Burning produces obnoxious and toxic fumes. Downwind personnel must be evacuated.
Special protective equipment For fire-fighters:	Avoid contact with the skin. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
Environmental precautions:	Construct a dike to prevent spreading.
Methods for cleaning up:	Approach suspected leak areas with caution. Contact Terraco for advice. Place in appropriate chemical waste container.
Additional advice:	If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling:	Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid breathing vapours and/or aerosols. Avoid contact with eyes. Use only well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.
Storage:	Do not store near acids. Keep away from alkalis. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Keep containers tightly closed in a dry, cool and well-ventilated place.
Technical measures / Precautions	Do not store in reactive metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:	
Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.	
Personal protective equipment:	
Respiratory protection:	Not required for properly ventilated areas. Wear appropriate respirator when ventilation is inadequate.

Hand protection:	Neoprene gloves. PVC disposable gloves. Butyl-rubber gloves. Nitrile rubber gloves. Impervious gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.
Eye protection:	Chemical resistant goggles must be worn.
Skin and body protection:	Long sleeve shirts and trousers without cuffs. Impervious clothing.
Special instructions for Protection and hygiene:	Provide readily accessible eye wash stations and safety showers. Wash at the end of each work-shift and before eating, smoking or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid.
Colour:	Amber / Pale yellow.
Odour:	Slight Ammoniac odour.
Relative density:	1.01 – 1.03 (water = 1)
Vapour pressure:	3.00mmHg - <10.34 mmHg at 21°C.
pH:	10.
Boiling point/range:	>351 °F (>177°C) - 572°F (300°C).
Flash point:	117.22 °C – 127.78 °C.
Water solubility:	Slightly soluble (<0.1 g/l).

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Materials to avoid:	Amines. Incompatible with bases. Reducing agents. N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the products comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Sodium hypochlorite. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Product slowly corrodes copper, aluminium, zinc and galvanized surfaces. Oxidizing agents.

Hazardous decomposition products:	Nitric acid. Ammonia. Nitrogen oxides (NO _x). Nitrogen oxide can react with water vapours to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO ₂). Aldehydes. Flammable hydrocarbon fragments (e.g. acetylene). Organic acid vapours. Nitrosamine.
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11. TOXICOLOGICAL INFORMATION

Acute Health Hazard:	
Ingestion:	LD50 > 2000mg/kg. Species: Rat. Method: Estimated.
Inhalation:	No data is available on the product itself.
Inhalation - Components:	
Benzyl alcohol:	LC50 (4 h) : >4.178 mg/l. Species: Rat.
Toluene:	LC50 (4 h): 49 mg/l. Species: Rat.
Skin:	LD50 > 2000mg/kg Species: Rabbit. Method: Estimated.
Skin - Components:	
Benzyl alcohol:	LD50: 2000mg/kg. Species: Rabbit.
Mixed Cycloaliphatic amines:	LD50: > 1000mg/kg. Species: Rabbit.
Triethylenetetramine:	LD50: 550mg/kg. Species: Rabbit.
Tertiary amines:	LD50: 1242mg/kg. Species: Rabbit.
Eye irritation / corrosion:	Mild/moderate eye irritation.
Acute dermal irritation / corrosion:	Mild/moderate eye irritation.
Sensitization:	Dermal sensitization to this product or component has been seen in some humans. The results of a test on guinea pigs showed this substance to be a weak skin sensitizer. Sensitization has occurred in laboratory animals after repeated exposures.
Chronic Health Hazard:	
<p>Results from a battery of short term genotoxicity tests on this material or its components indicate mutagenic activity. In vitro tests have shown mutagenic effects on bacterial cultures. A component has been shown to cause reproductive/teratogenic effects in laboratory animals. Mixed polycycloaliphatic amines were tested in rats for systemic effects in a sub-chronic (28-day) oral study at doses ranging from 15 to 300 mg/kg/day. Effects seen at 300 mg/kg/day included decreased survival, decreased body weight gain, increased liver, kidney and adrenal weights and histological changes in the liver, kidney, adrenals and spleen. The No-Observed-Adverse-Effect-Level (NOAEL) was 15 mg/kg/day. Rats exposed orally to 800 mg/kg benzyl alcohol for thirteen weeks exhibited CNS depression and histopathological changes in the brain, thymus and skeletal muscles. The No-Observed-Adverse-Effect-Level (NOAEL) was 400 mg/kg. No evidence of carcinogenicity was seen in a two-year study with rats and mice.</p>	

12. ECOLOGICAL INFORMATION

Eco-toxicity effects::		
Aquatic toxicity:	No data is available on the product itself.	
Toxicity to fish - Components:		
Benzyl alcohol:	LC50 (96 h): 10 mg/l.	Species: Bluegill sunfish (<i>Lepomis macrochirus</i>). Species: Fathead minnow (<i>Pimephales promelas</i>). Species: Rainbow trout (<i>Oncorhynchus mykiss</i>).
Benzyl alcohol:	LC50 (96 h): 460 mg/l.	
Toluene:	EC50 (48 h): 6 mg/l.	
Toxicity to algae - Components:		
Benzyl alcohol:	IC50 (72 h): 700 mg/l.	Species: Algae.
Toxicity to daphnia - Components:		
Toluene:	EC50 (48 h): 6 mg/l.	Species: Daphnia.
Toluene:	EC50 (48 h): 6.56 mg/l.	Species: Daphnia.
Toxicity to other organisms:	No data available.	
Persistence and degradability:		
Mobility:	No data available.	
Bioaccumulation:	No data available on product itself.	
Bioaccumulation - Components		
Benzyl alcohol:	Low bioaccumulation potential.	
Toluene:	Low bioaccumulation potential.	

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products:	Contact Terraco if guidance is required.
Contaminated packaging:	Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

CFR:	Not regulated.
CTC:	Not regulated.
IATA:	UN No: 2289 Class: 8
IMDG:	UN No: 2289 Class: 8
ADR/RID:	UN No: 2289 Class: 8
ADR/RID Symbol	
ADR/RID Kemler Number	
ADR/RID Proper Shipping Name	
Further information:	

15. REGULATORY INFORMATION

OSHA Hazard Communications Standard (29 CFR 1910.1200) Hazard Class(es).
No OSHA Hazards.

Country	Regulatory list	Notification
USA	TSCA	Included on inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification :

Acute Health Hazard. Chronic Health Hazard.

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level :

None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) :

WARNING ! This product contains a chemical known in the State of California to cause birth defects or Other reproductive harm.
Toluene.

WHMIS Hazard Classification :

Toxic Material Causing Immediate and Serious Toxic Effects, Very Toxic Material Causing Other Toxic Effects, Toxic Material Causing Other Toxic Effects.

WHMIS Trade Secret Registry Number(s) :

4832 Grant Date 1/4/2005.

16. OTHER INFORMATION

The products should not be used for purposes other than those shown on the manufacturer's product labels and technical data sheets. As the specific conditions of use are outside the supplier's control; the user is responsible for ensuring compliance with the relevant legislation in the territory of use.

The information contained in this Material Safety Data Sheet, is based on the current state of knowledge and current state of Legislation. It provides guidance on Health Safety and Environmental aspects of the products, and should not be taken as a guarantee of technical performance or suitability for particular applications.

Approved by:	J. Carey - Group Technical Director.
Approval date:	12/07/2010
Supersedes:	29/04/2010
Number:	MSDS No. 1051

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