

Material Safety Data Sheet

1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

Product name : Galvpatch

Company/undertaking identification

Manufacturer : Drivelines & Sprayflow cc
PO Box 6148
Dunswart 1508
South Africa

Supplier : Drivelines & Sprayflow cc
PO Box 6148
Dunswart 1508
South Africa

Emergency telephone number : Tel: +27 11 892 3153 / 4
Fax: +27 11 917 6683

2. Composition/information on ingredients

Substance/preparation : Preparation: (Binary Mixtue)

Ingredient name	CAS number	%	EC number	Classification
South Africa zinc powder - zinc dust (stabilized) Reaction product: bisphenol A-(epichlorhydrin)	7440-66-6 25068-38-6	80 - 81 10 - 12	231-175-3	N; R50/53 Xi; R36/38 R43 N; R51/53
Benzyl alcohol Phenol, 4,4-(1methylethylidene)-bis-polymer	100-51-6 161278-17-7	1.5 - 4 1.5 - 3.5	202-859-9	Xn; R20/22 Xn; R20/21 C; R34 R43 R53
Orixane, mono [(c12-14-alkyloxy)methyl] derivatives	68609-97-2	1 - 3	271-846-8	Xi; R38 R43 N; R51/53
m-xylene-alpha,alpha'-diamine	1477-55-0	1 - 2.5	216-032-5	Not classified.

See section 16 for the full text of the R-phrases declared above

Occupational exposure limits, if available, are listed in section 8.

3. Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Xi; R36/38
R43
N; R50/53

Physical/chemical hazards : Not applicable.

Human health hazards : Irritating to eyes and skin. May cause sensitization by skin contact.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additional hazards : Not available.

See section 11 for more detailed information on health effects and symptoms.

4. First aid measures

First aid measures

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

- Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

- Extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Refer to special instructions/safety data sheet. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

- Recommended** : Use original container.

8. Exposure controls/personal protection

Ingredient name

m-xylene-alpha,alpha'-diamine

Occupational exposure limits

ACGIH TLV (United States, 1/2004). Skin
 CEIL: 0.1 mg/m³ Form: All forms

Exposure controls

- Occupational exposure controls** : Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. Physical and chemical properties

General information

Appearance

- Physical state** : Liquid. [Paste / Liquid]
Color : Yellow / Grey

Important health, safety and environmental information

- Solubility** : Soluble in the following materials: methanol and diethyl ether.
 Very slightly soluble in the following materials: n-octanol.
 Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Not available.
- Materials to avoid** : Highly reactive or incompatible with the following materials: oxidizing materials.
 Reactive or incompatible with the following materials: reducing materials, acids and alkalis.
- Hazardous decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 halogenated compounds
 metal oxide/oxides

11. Toxicological information

Potential acute health effects

- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Irritating to skin. May cause sensitization by skin contact.
- Eye contact** : Irritating to eyes.

Acute toxicity

<u>Product/ingredient name</u>	<u>Result</u>	<u>Species</u>	<u>Dose</u>	<u>Exposure</u>
Reaction product: bisphenol A-(epichlorhydrin)	LD50 Oral	Rat	>1000 mg/kg	-
	LD50 Oral	Mouse	>500 mg/kg	-

Potential chronic health effects

- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin** : No known significant effects or critical hazards.

Galvpatch**Target organs**

: Contains material which causes damage to the following organs: blood, kidneys, the nervous system, liver, upper respiratory tract, skin, eye, lens or cornea.

12. Ecological information**Ecotoxicity data**

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
zinc powder - zinc dust (stabilized)	Daphnia magna (EC50)	48 hour(s)	2.8 mg/l
	Pimephales promelas (LC50)	96 hour(s)	0.238 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	0.24 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	0.41 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	0.56 mg/l
	Daphnia magna (LC50)	96 hour(s)	0.57 mg/l
Benzyl alcohol	Lepomis macrochirus (LC50)	96 hour(s)	10 mg/l
	Pimephales promelas (LC50)	96 hour(s)	460 mg/l

Other ecological informationPersistence/degradability

<u>Ingredient name</u>	<u>BOD₅</u>	<u>COD</u>	<u>ThOD</u>
Benzyl alcohol	1.55 gO ₂ /g	-	-

<u>Ingredient name</u>	<u>Aquatic half-life</u>	<u>Photolysis</u>	<u>Biodegradability</u>
zinc powder - zinc dust (stabilized)	-	-	Not readily
Benzyl alcohol	Fresh Water 110 days	< 28 day(s).	Inherent

Bioaccumulative potential

<u>Ingredient name</u>	<u>LogP_{ow}</u>	<u>BCF</u>	<u>Potential</u>
zinc powder - zinc dust (stabilized)	-	100000	high
Benzyl alcohol	-	1	low

Other adverse effects

: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. Disposal considerations**Methods of disposal**

: Dispose of via a licensed waste disposal contractor.

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste classification

: Hazardous chemical waste.

14. Transport information**International transport regulations**

<u>Regulatory information</u>	<u>UN number</u>	<u>Proper shipping name</u>	<u>Class</u>	<u>Packing group</u>	<u>Label</u>	<u>Additional information</u>
ADR / SANS 10228 Class	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol A-(epichlorhydrin))	9	III		-
IMDG Class	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	III		-
IATA Class	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	III		-

15. Regulatory information**SANS 10265 / EU Regulations****Hazard symbol or symbols**

Irritant, Dangerous for the environment

Risk phrases	: R36/38- Irritating to eyes and skin. R43- May cause sensitization by skin contact. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	: S2- Keep out of the reach of children. S24- Avoid contact with skin. S29- Do not empty into drains. S37- Wear suitable gloves. S46- If swallowed, seek medical advice immediately and show this container or label. S61- Avoid release to the environment. Refer to special instructions/safety data sheet.
Contains	: Reaction product: bisphenol A-(epichlorhydrin) Phenol, 4,4-(1methylethylidene)-bis-polymer Orixane, mono [(c12-14-alkyloxy)methyl] derivatives 271-846-8
Product use	: Consumer applications, Industrial applications.

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe	: R20/21- Harmful by inhalation and in contact with skin. R20/22- Harmful by inhalation and if swallowed. R34- Causes burns. R38- Irritating to skin. R36/38- Irritating to eyes and skin. R43- May cause sensitization by skin contact. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R53- May cause long-term adverse effects in the aquatic environment.
Full text of classifications referred to in sections 2 and 3 - Europe	: C - Corrosive Xn - Harmful Xi - Irritant N - Dangerous for the environment
Definition of terms	: CAS Number : Chemical Abstract Number EC Number : European Community Inventory Number OEL - RL : Occupational Exposure Limit - Recommended Limits ACGIH TLV : American Conference on Government Industrial Hygienists - Theshold Limit Value NIOSH : National Institute of Occupational Health and Safety (USA) OSHA PEL (TWA) : Occupational Health and Safety Administration (USA) - Permissable Exposure Limit (Total Wiegthed Average) LDLO : Lethal Concentration Low. Lowest concentration in air reported to have caused death in humans or animals LC50 : Lethal Concentration 40. The single dose of a substance that causes dearch of 50% of an animal population ADR : Abbreviation for European Agreement on International Carriage of Dangerous Goods By Road. IMDG : International Maritime Dangerous Goods IATA : International Air Transport Association SANS 10265 : South African National Standard 10265 (Carriage of Dangerous Goods by Road)

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