MATERIAL SAFETY DATA SHEET

Product Name : Tiger Brand Zinc Chromate Primer 3000

Color / Name : Yellow, Grey Green

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

Intended Use : See Technical Data Sheet
Name of Company : Seng Fong Paints Pte Ltd

Address : No 38, Kian Teck Road, Singapore 628788

Telephone : + 65 62640100 Fax : + 65 62640277

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substances presenting a health hazard within the meaning of the Dangerous Substances Directive 67 / 548 / EEC.

Name	CAS-No.	Conc.Range	Symbol	R-Phrases
Solvent naptha (petroleum),	64742-82-1	10 - 25%	Xn, N	R10, R65, R66, R67
hydrodesulfurized heavy				R51/53
Potassium Zinc Chromate	11103-86-9	2.5 - 10%	T, N	Carc. Cat 2; R45
Hydroxide				R22, R43, R50/53
Lead Chromate	1344-37-2	2.5 - 10%	N	Carc. Cat 2; R45
				Repr.Cat.1, R61
				Repr.Cat.3, R62
				R33, R50/53

See full text of phrases in section 16.

3. HAZARDS IDENTIFICATION OF THE PREPARATION

Flammable.

May cause cancer.

May cause harm to the unborn child.

Possible risk of impaired fertility.

Danger of cumulative effects.

Vapours may cause drowsiness and dizziness.

Harmful; May cause lung damage if swallowed.

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

4. FIRST AID MEASURES

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

<u>Inhalation</u> :

Remove to fresh air, keep patient warm and at rest, if breathing is irregular of stopped, administer artificial respiration. Give nothing by mouth. If unconscious place in recovery position and seek medical advice.

MATERIAL SAFETY DATA SHEET

Product Name : Tiger Brand Zinc Chromate Primer 3000

Color / Name : Yellow, Grey Green

Eye Contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice.

Skin contact :

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion :

If accidentally swallowed, obtain immediate medical attention. Keep at rest . Do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing media

<u>Recommended</u> Alcohol resistant foam, CO2, Powders, Water spray

Not to be used Waterjet

<u>Recommendations</u> Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Exclude sources of ignition and ventilate the area. Avoid breathing vapors. Refer to protective measures listed in sections 7 and 8. Contain and collect spillage with non-combustible adsorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Do not allow to enter drains or watercourses. Clean preferably with a detergent; avoid use of solvents. If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Handling Vapors are heavier than air and may spread along floors. Vapor may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Additionally, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

<u>Preparation may charge electrostatically</u> Always use earthing leads when transferring from one container another. Operators should wear anti-static footwear, and floors should be of the conducting type.

<u>Container Storage</u> Keep container tightly closed. Isolate from sources of heat, sparks

and open flame.

No sparking tools should be used.

Always keep in containers of same material as the original one. Never use pressure to empty: Container is not a pressure vessel.

MATERIAL SAFETY DATA SHEET

Product Name : Tiger Brand Zinc Chromate Primer 3000

Color / Name : Yellow, Grey Green

Skin Contacted Avoid skin and eye contact. Avoid inhalation of vapor and spray mist.

Application areas Smoking, eating and drinking should be prohibited in application areas.

For personal protection see Section 8.

Comply with the health and safety at work laws.

When operators ,Whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapor in all cases. In such circumstances they should wear a compressed aired respirator during the spraying process until such time as the particulates and solvent vapor concentration has fallen below the exposure limits.

<u>Storage</u>

Store in accordance with local rules and legislation. Observe label precautions . Store between 5 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep away from sources of ignition .Keep away from oxidizing agents, from strongly alkaline and strongly acid materials. No smoking . Prevent unauthorized access. Containers which are opened mush be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Engineering Measures</u>: Provide adequate ventilation. Where reasonably practicable this should be achieved by use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentration of particulates and solvent vapor below the specified exposure levels, suitable respiratory protection must be worn.

IngredientWorkplace Exposure LimitsNaphtha (petroleum),EH40-WEL (United Kingdom (UK), 1/2005).hydrodesulfurized heavySTEL: 850 mg/m3 15 minute/minutes. Form: All formsSTEL: 150 ppm 15 minute/minutes. Form: All formsTWA: 566 mg/m3 8 hour/hours. Form: All formsTWA: 100 ppm 8 hour/hours. Form: All forms

Lead Chromate EH40-WELs (United Kingdom (UK), 12/2011. Skin sensitiser.

Notes: Carc

TWA: 0.05mg/m3 (as chromium), 8 hours

Potassium Zinc Chromate Zinc Chromates: 0.1mg (CrO3)/m3 OSHA Ceiling

Hydroxide 0.001mg ((Cr(VI))mg3 NIOSH recommended TWA 10 hours (s)

Personal Protection

<u>Respiratory Protection</u>: When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators.

Hand Protection: For prolonged or repeated contact, wear suitable gloves. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

MATERIAL SAFETY DATA SHEET

Product Name : Tiger Brand Zinc Chromate Primer 3000

Color / Name : Yellow, Grey Green

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Skin Protection: Personal should wear antistatic clothing made of natural fiber or of high temperature resistant synthetic fiber. All parts of the body should be washed after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Flash point : 39°C Volume Solids : 55%

Specific gravity at 30 °C : 1.35 to 1.45 gram/cm³ (average value)

Vapor density : Heavier than air Color : Yellow, Grey Green

Texture : Liquid

Flammable in air(% by volume) : Lower limit : 0.6; Upper limit : 6.5

Solubility in water : Not miscible with water

10. STABILITY AND REACTIVITY

Stable under recommended storage and handling conditions. (See section 7) When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide smokes, oxides of nitrogen.

Keep away from oxidizing agents, Strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

11. TOXICOLOGICAL INFORMATION

There are no data available on the preparation itself.

Exposure to component solvents vapors concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney , liver and central nervous system .Symptoms and signs include headache ; dizziness , fatigue , muscular weakness ,Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

12. ECOLOGICAL INFORMATION

There are no data available on the preparation itself. The product should not be allowed to enter drains or water courses.

13. DISPOSAL CONSIDERATIONS

Do not allow into drains or water courses .

Waste and emptied containers should be disposed of according to the local rules and legislation.

14. TRANSPORT INFORMATION

Transport only in accordance with ADR for road , RID for rail, IMDG for sea and ICAO/IATA for air transport .

MATERIAL SAFETY DATA SHEET

Product Name	: Tiger Brand Zinc Chromate Primer 3000		
Color / Name	: Yellow, Grey Green		
ADR/AIR			
UN Number	1263		
Proper Shipping Name	Paint		
Class	3		
Packing Group	III		
IMDG			
UN Number	1263		
Proper Shipping Name	Paint		
Class	3		
Packing Group	III		
Emergency Schedules	F-E, S-E		
IATA-DGR			
UN Number	1263		
Proper Shipping Name	Paint		
Class	3		
Packing Group	III		

15. REGULATORY INFORMATION

In accordance with the Dangerous Preparations Directive 88/379/EEC the product is labeled as follow:

Product is Toxic (T), and Dangerous To The Environment (N).

R phrases R	10 Flammable.
-------------	---------------

R45 May cause cancer.

R61 May cause harm to the unborn child R62 Possible risk of impaired fertility.

R33 Risk of cumulative effect.

R65 Harmful: May cause lung damage if swallowed. R67 Vapours may cuase drowsiness and dizziness.

R50/53 Very toxic to aquatic organisms, may cause long-term

adverse effects in the aquatic environement.

S phrases S21 When using do not smoke.

S23 Do not breathe spray.

S36/37/39 Wear suitable protective clothing, gloves and eye/face

protection.

S38 In case of insufficient ventilation, wear suitable

respiratory equipment.

S60 This material and its container must be disposed of as

hazardous waste.

S61 Avoid release to the environment. Refer to special

instructions/safety data sheets.

MATERIAL SAFETY DATA SHEET

Product Name : Tiger Brand Zinc Chromate Primer 3000

Color / Name : Yellow, Grey Green

16. OTHER INFORMATION

Full text of R phrases appearing in section 2:

Solvent naptha (petroleum), R10 Flammable

hydrodesulfurized heavy R51/53 Toxic to aquatic organisms. May cause long-term adverse

effects in the aquatic environment.

R65 Harmful, may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

Potassium Zinc Chromate

Hydroxide

R22 Harmful if swallowed.

R43 May cause sensitization by skin contact.

R45 May cause cancer.

R 50/53 Very toxic to aquatic organisms, may cause long-term

adverse ffects in the aquatic environment.

Lead Chromate R33 Danger of cumulative effect.

R45 May cause cancer.

R 50/53 Very toxic to aquatic organisms, may cause long-term

adverse ffects in the aquatic environment. R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility.

Full text of Symbol phrases appearing in section 2:

Car.Cat 2 - Carcinogen category 2

Repr.Cat 1 - Toxic to reproduction category 1 Repr.Cat 3 - Toxic to reproduction category 3

N - Dangerous for the environment.

T - Toxic Xi - Irritant Xn - Harmful

The information of this MSDS is based on the present state of our knowledge. As the users' working conditions are beyond our knowledge and control . The product is not to be used for other purposes than those specified under section 1 without first obtaining written handling instruction It is always the responsibility of the user to take all local rules and legislation. The information in this MSDS is meant as a description of the safety requirements of our product: it is not be considered as a guarantee of the products' properties .

Prepared/Last Amended On: 1-Jul-16