



## Dy-Mark Zinc Guard White Primer

### Dy-Mark

Chemwatch: 41-6917

Version No: 9.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 27/08/2020

Print Date: 14/02/2022

S.GHS.AUS.EN.E

## SECTION 1 Identification of the substance / mixture and of the company / undertaking

### Product Identifier

|                               |                                 |
|-------------------------------|---------------------------------|
| Product name                  | Dy-Mark Zinc Guard White Primer |
| Chemical Name                 | Not Applicable                  |
| Synonyms                      | 230732003                       |
| Proper shipping name          | AEROSOLS                        |
| Chemical formula              | Not Applicable                  |
| Other means of identification | Not Available                   |

### Relevant identified uses of the substance or mixture and uses advised against

|                          |  |
|--------------------------|--|
| Relevant identified uses | Application is by spray atomisation from a hand held aerosol pack<br>Use according to manufacturer's directions. |
|--------------------------|--|

### Details of the supplier of the safety data sheet

|                         |   |
|-------------------------|---|
| Registered company name | Dy-Mark   |
| Address                 | 89 Formation Street Wacol QLD 4076 Australia                    |
| Telephone               | +61 7 3327 3004   |
| Fax                     | +61 7 3327 3009   |
| Website                 | <a href="http://www.dymark.com.au">http://www.dymark.com.au</a> |
| Email                   | info@dymark.com.au  |

### Emergency telephone number

|                                   |                 |
|-----------------------------------|-----------------|
| Association / Organisation        | Dy-Mark         |
| Emergency telephone numbers       | +61 7 3327 3099 |
| Other emergency telephone numbers | Not Available   |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

#### ChemWatch Hazard Ratings

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 4   |     |
| Toxicity     | 2   |     |
| Body Contact | 2   |     |
| Reactivity   | 1   |     |
| Chronic      | 2   |     |

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

|                    |   |
|--------------------|---|
| Poisons Schedule   | Not Applicable  |
| Classification [1] | Aerosols Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Germ Cell Mutagenicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2 |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |

### Label elements

## Dy-Mark Zinc Guard White Primer

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |     |
|---------------------|---|

|             |        |
|-------------|--------|
| Signal word | Danger |
|-------------|--------|

## Hazard statement(s)

|           |  |
|-----------|--|
| H222+H229 | Extremely flammable aerosol. Pressurized container: may burst if heated. |
| H315      | Causes skin irritation.  |
| H319      | Causes serious eye irritation.   |
| H336      | May cause drowsiness or dizziness.                                       |
| H341      | Suspected of causing genetic defects.                                    |
| H411      | Toxic to aquatic life with long lasting effects.                         |
| AUH044    | Risk of explosion if heated under confinement.                           |

## Precautionary statement(s) Prevention

|      |  |
|------|--|
| P201 | Obtain special instructions before use.  |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source.  |
| P251 | Do not pierce or burn, even after use.   |
| P271 | Use only outdoors or in a well-ventilated area.  |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection.               |
| P261 | Avoid breathing mist/vapours/spray.  |
| P273 | Avoid release to the environment.  |
| P264 | Wash all exposed external body areas thoroughly after handling.                                |

## Precautionary statement(s) Response

|                |  |
|----------------|--|
| P308+P313      | IF exposed or concerned: Get medical advice/ attention.  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312           | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.  |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P391           | Collect spillage.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water and soap.  |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P332+P313      | If skin irritation occurs: Get medical advice/attention.   |
| P362+P364      | Take off contaminated clothing and wash it before reuse.   |

## Precautionary statement(s) Storage

|           |  |
|-----------|--|
| P405      | Store locked up.   |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed.             |

## Precautionary statement(s) Disposal

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No        | %[weight] | Name   |
|---------------|-----------|--|
| 1330-20-7     | 10-30     | <u>xylene</u>                                    |
| Not Available | 10-30     | resin, proprietary                               |
| Not Available | 10-30     | filler   |
| 13463-67-7    | 1-10      | <u>titanium dioxide</u>                          |
| 7779-90-0     | 1-10      | <u>zinc phosphate</u>                            |
| 64742-95-6.   | 1-10      | <u>naphtha petroleum, light aromatic solvent</u> |
| 64-17-5       | 1-10      | <u>ethanol</u>                                   |
| 68476-85-7.   | 30-60     | <u>hydrocarbon propellant</u>                    |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4.

Continued...

## Dy-Mark Zinc Guard White Primer

Classification drawn from C&amp;L; \* EU IOELVs available

## SECTION 4 First aid measures

## Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>   |
| <b>Skin Contact</b> | <p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▶ <b>DO NOT use solvents.</b></li> <li>▶ Seek medical attention in the event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▶ Remove to fresh air.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> </ul> <p>Not considered a normal route of entry.</p>  |

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to xylene:

- ▶ Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.
- ▶ Pulmonary absorption is rapid with about 60-65% retained at rest.
- ▶ Primary threat to life from ingestion and/or inhalation, is respiratory failure.
- ▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> < 50 mm Hg or pCO<sub>2</sub> > 50 mm Hg) should be intubated.
- ▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- ▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- ▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.

## BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

| Determinant                    | Index                            | Sampling Time                       | Comments |
|--------------------------------|----------------------------------|-------------------------------------|----------|
| Methylhippu-ric acids in urine | 1.5 gm/gm creatinine<br>2 mg/min | End of shift<br>Last 4 hrs of shift |          |

## SECTION 5 Firefighting measures

## Extinguishing media

## SMALL FIRE:

- ▶ Water spray, dry chemical or CO<sub>2</sub>

## LARGE FIRE:

- ▶ Water spray or fog.

## Special hazards arising from the substrate or mixture

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

## Advice for firefighters

|                              |  |
|------------------------------|--|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ If safe, switch off electrical equipment until vapour fire hazard removed.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> <li>▶ Vapour may travel a considerable distance to source of ignition.</li> <li>▶ Heating may cause expansion or decomposition with violent container rupture.</li> <li>▶ Aerosol cans may explode on exposure to naked flames.</li> <li>▶ Rupturing containers may rocket and scatter burning materials.</li> <li>▶ Hazards may not be restricted to pressure effects.</li> <li>▶ May emit acrid, poisonous or corrosive fumes.</li> </ul>   |

Continued...

## Dy-Mark Zinc Guard White Primer

|         |  |
|---------|--|
|         | <ul style="list-style-type: none"> <li>On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> Combustion products include:<br>carbon dioxide (CO <sub>2</sub> )<br>other pyrolysis products typical of burning organic material.<br><b>Contains low boiling substance:</b> Closed containers may rupture due to pressure buildup under fire conditions. |
| HAZCHEM | Not Applicable   |

## SECTION 6 Accidental release measures

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|              |   |
|--------------|---|
| Minor Spills | <ul style="list-style-type: none"> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Wear protective clothing, impervious gloves and safety glasses.</li> <li>Shut off all possible sources of ignition and increase ventilation.</li> <li>Wipe up.</li> <li>If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.</li> <li>Undamaged cans should be gathered and stowed safely.</li> </ul>   |
| Major Spills | <ul style="list-style-type: none"> <li><b>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</b></li> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear breathing apparatus plus protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water courses</li> <li>No smoking, naked lights or ignition sources.</li> <li>Increase ventilation.</li> <li>Stop leak if safe to do so.</li> <li>Water spray or fog may be used to disperse / absorb vapour.</li> <li>Absorb or cover spill with sand, earth, inert materials or vermiculite.</li> <li>If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.</li> <li>Undamaged cans should be gathered and stowed safely.</li> <li>Collect residues and seal in labelled drums for disposal.</li> <li>Remove leaking cylinders to a safe place if possible.</li> <li>Release pressure under safe, controlled conditions by opening the valve.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

## Precautions for safe handling

|                   |  |
|-------------------|--|
| Safe handling     | <ul style="list-style-type: none"> <li><b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> <li><b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>Avoid smoking, naked lights or ignition sources.</li> <li>Avoid contact with incompatible materials.</li> <li><b>When handling, DO NOT eat, drink or smoke.</b></li> <li><b>DO NOT incinerate or puncture aerosol cans.</b></li> <li><b>DO NOT spray directly on humans, exposed food or food utensils.</b></li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with soap and water after handling.</li> <li>Work clothes should be laundered separately.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul> |
| Other information | <ul style="list-style-type: none"> <li>Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> <li>Store in original containers in approved flammable liquid storage area.</li> <li><b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>No smoking, naked lights, heat or ignition sources.</li> <li>Keep containers securely sealed. Contents under pressure.</li> <li>Store away from incompatible materials.</li> <li>Store in a cool, dry, well ventilated area.</li> <li>Avoid storage at temperatures higher than 40 deg C.</li> <li>Store in an upright position.</li> <li>Protect containers against physical damage.</li> <li>Check regularly for spills and leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>  |

## Conditions for safe storage, including any incompatibilities

|                         |   |
|-------------------------|---|
| Suitable container      | <ul style="list-style-type: none"> <li>Aerosol dispenser.</li> <li>Check that containers are clearly labelled.</li> </ul> |
| Storage incompatibility | <ul style="list-style-type: none"> <li>Avoid reaction with oxidising agents</li> </ul>                                    |

Dy-Mark Zinc Guard White Primer



X — Must not be stored together  
0 — May be stored together with specific preventions  
+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source                       | Ingredient             | Material name                 | TWA                   | STEL                | Peak          | Notes  |
|------------------------------|------------------------|-------------------------------|-----------------------|---------------------|---------------|--|
| Australia Exposure Standards | xylene                 | Xylene (o-, m-, p- isomers)   | 80 ppm / 350 mg/m3    | 655 mg/m3 / 150 ppm | Not Available | Not Available  |
| Australia Exposure Standards | titanium dioxide       | Titanium dioxide              | 10 mg/m3              | Not Available       | Not Available | (a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica. |
| Australia Exposure Standards | ethanol                | Ethyl alcohol                 | 1000 ppm / 1880 mg/m3 | Not Available       | Not Available | Not Available  |
| Australia Exposure Standards | hydrocarbon propellant | LPG (liquified petroleum gas) | 1000 ppm / 1800 mg/m3 | Not Available       | Not Available | Not Available  |

Emergency Limits


| Ingredient                                | TEEL-1        | TEEL-2        | TEEL-3        |
|---|---------------|---------------|---------------|
| xylene                                    | Not Available | Not Available | Not Available |
| titanium dioxide                          | 30 mg/m3      | 330 mg/m3     | 2,000 mg/m3   |
| zinc phosphate                            | 12 mg/m3      | 36 mg/m3      | 220 mg/m3     |
| naphtha petroleum, light aromatic solvent | 1,200 mg/m3   | 6,700 mg/m3   | 40,000 mg/m3  |
| ethanol                                   | Not Available | Not Available | 15000* ppm    |
| hydrocarbon propellant                    | 65,000 ppm    | 2.30E+05 ppm  | 4.00E+05 ppm  |

| Ingredient                                | Original IDLH | Revised IDLH  |
|---|---------------|---------------|
| xylene                                    | 900 ppm       | Not Available |
| titanium dioxide                          | 5,000 mg/m3   | Not Available |
| zinc phosphate                            | Not Available | Not Available |
| naphtha petroleum, light aromatic solvent | Not Available | Not Available |
| ethanol                                   | 3,300 ppm     | Not Available |
| hydrocarbon propellant                    | 2,000 ppm     | Not Available |

Exposure controls

|                                  |  |                                  |
|----------------------------------|--|----------------------------------|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.</p> <p>Provide adequate ventilation in warehouse or closed storage areas.</p> <p>Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> |                                  |
|                                  | Type of Contaminant:   | Speed:                           |
|                                  | aerosols, (released at low velocity into zone of active generation)  | 0.5-1 m/s                        |
|                                  | direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)  | 1-2.5 m/s (200-500 f/min.)       |
|                                  | Within each range the appropriate value depends on:  |                                  |
|                                  | Lower end of the range   | Upper end of the range           |
|                                  | 1: Room air currents minimal or favourable to capture  | 1: Disturbing room air currents  |
|                                  | 2: Contaminants of low toxicity or of nuisance value only.   | 2: Contaminants of high toxicity |
|                                  | 3: Intermittent, low production.   | 3: High production, heavy use    |
|                                  |  |                                  |

## Dy-Mark Zinc Guard White Primer

|                         |  |
|-------------------------|--|
|                         | <p>4: Large hood or large air mass in motion</p> <p>4: Small hood-local control only</p> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p> |
| Personal protection     |   |
| Eye and face protection | <p>No special equipment for minor exposure i.e. when handling small quantities.</p> <p><b>OTHERWISE:</b> For potentially moderate or heavy exposures:</p> <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ <b>NOTE:</b> Contact lenses pose a special hazard; soft lenses may absorb irritants and <b>ALL</b> lenses concentrate them.</li> </ul>   |
| Skin protection         | See Hand protection below  |
| Hands/feet protection   | <ul style="list-style-type: none"> <li>▶ No special equipment needed when handling small quantities.</li> <li>▶ <b>OTHERWISE:</b></li> <li>▶ For potentially moderate exposures:</li> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ For potentially heavy exposures:</li> <li>▶ Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>   |
| Body protection         | See Other protection below   |
| Other protection        | <p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eyewash unit.</li> <li>▶ Do not spray on hot surfaces.</li> <li>▶ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.</li> <li>▶ Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.</li> </ul> <p>BRETHERRICK: Handbook of Reactive Chemical Hazards.</p>   |

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

Dy-Mark Zinc Guard White Primer

| Material          | CPI |
|-------------------|-----|
| PE/EVAL/PE        | A   |
| BUTYL             | C   |
| BUTYL/NEOPRENE    | C   |
| HYPALON           | C   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE          | C   |
| NEOPRENE/NATURAL  | C   |
| NITRILE           | C   |
| NITRILE+PVC       | C   |
| PVA               | C   |
| PVC               | C   |
| PVDC/PE/PVDC      | C   |
| TEFLON            | C   |
| VITON             | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | AX-AUS               | -                    | AX-PAPR-AUS / Class 1  |
| up to 50 x ES                      | -                    | AX-AUS / Class 1     | -                      |
| up to 100 x ES                     | -                    | AX-2                 | AX-PAPR-2 ^            |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## Dy-Mark Zinc Guard White Primer

## Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | White flammable aerosol; not miscible with water.<br>Supplied as an aerosol pack. Contents under <b>PRESSURE</b> . Contains highly flammable hydrocarbon propellant. |  |                |
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | Not Available  |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Applicable   | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available  | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | -81 (propellant)   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available  | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | HIGHLY FLAMMABLE.  | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Available  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Available  | <b>Volatile Component (%vol)</b>               | >50            |
| <b>Vapour pressure (kPa)</b>                        | Not Available  | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water</b>                          | Immiscible   | <b>pH as a solution (Not Available%)</b>       | Not Applicable |
| <b>Vapour density (Air = 1)</b>                     | Not Available  | <b>VOC g/L</b>                                 | Not Available  |

## SECTION 10 Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Elevated temperatures.</li> <li>▶ Presence of open flame.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

## SECTION 11 Toxicological information

## Information on toxicological effects

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest. Heart stoppage may result from cardiovascular collapse. A slow heart rate and low blood pressure may also occur.</p> <p>Alkylbenzenes are not generally toxic except at high levels of exposure. Their breakdown products have low toxicity and are easily eliminated from the body.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p><b>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</b></p> <p>Exposure to hydrocarbons may result in irregularity of heart beat. Symptoms of moderate poisoning may include dizziness, headache, nausea.</p> |
| <b>Ingestion</b>    | <p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p>   |
| <b>Skin Contact</b> | <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Spray mist may produce discomfort</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p>   |
| <b>Eye</b>          | This material can cause eye irritation and damage in some persons. Not considered to be a risk because of the extreme volatility of the gas.  |



## Dy-Mark Zinc Guard White Primer

|   |   |  |
|---|---|--|
| Chronic                                   | <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects. Evaluation of workers chronically exposed to xylene has demonstrated lack of genetic toxicity.</p> <p>Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents. Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).</p> <p>Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS]</p> <p><b>WARNING: Aerosol containers may present pressure related hazards.</b></p> |  |
|   |   |  |
| Dy-Mark Zinc Guard White Primer           | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Not Available   | Not Available  |
| xylene                                    | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Dermal (rabbit) LD50: >1700 mg/kg <sup>[2]</sup>  | Eye (human): 200 ppm irritant                                    |
|   | Inhalation(Rat) LC50; 5000 ppm4h <sup>[2]</sup>   | Eye (rabbit): 5 mg/24h SEVERE                                    |
|   | Oral (Mouse) LD50; 2119 mg/kg <sup>[2]</sup>  | Eye (rabbit): 87 mg mild   |
|   |   | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|   |   | Skin (rabbit):500 mg/24h moderate                                |
| titanium dioxide                          | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | dermal (hamster) LD50: >=10000 mg/kg <sup>[2]</sup>   | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|   | Inhalation(Rat) LC50; >2.28 mg/L4h <sup>[1]</sup>   | Skin (human): 0.3 mg /3D (int)-mild *                            |
|   | Oral (Rat) LD50; >=2000 mg/kg <sup>[1]</sup>  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| zinc phosphate                            | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Oral (Rat) LD50; >5000 mg/kg <sup>[2]</sup>   | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
| naphtha petroleum, light aromatic solvent | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Dermal (rabbit) LD50: >1900 mg/kg <sup>[1]</sup>  | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|   | Inhalation(Rat) LC50; >4.42 mg/L4h <sup>[1]</sup>   | Skin: adverse effect observed (irritating) <sup>[1]</sup>        |
|   | Oral (Rat) LD50; >4500 mg/kg <sup>[1]</sup>   |  |
| ethanol                                   | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Dermal (rabbit) LD50: 17100 mg/kg <sup>[1]</sup>  | Eye (rabbit): 500 mg SEVERE                                      |
|   | Inhalation(Rat) LC50; 64000 ppm4h <sup>[2]</sup>  | Eye (rabbit):100mg/24hr-moderate                                 |
|   | Oral (Rat) LD50; 7060 mg/kg <sup>[2]</sup>  | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|   |   | Skin (rabbit):20 mg/24hr-moderate                                |
|   |   | Skin (rabbit):400 mg (open)-mild                                 |
| hydrocarbon propellant                    | <b>TOXICITY</b>   | <b>IRRITATION</b>  |
|   | Inhalation(Rat) LC50; 658 mg/L4h <sup>[2]</sup>   | Not Available  |
| <b>Legend:</b>                            | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances  |  |

|                  |  |
|------------------|--|
| XYLENE           | <p>Reproductive effector in rats</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The substance is classified by IARC as Group 3:</p> <p><b>NOT</b> classifiable as to its carcinogenicity to humans.</p> <p>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p>   |
|                  |  |
| TITANIUM DIOXIDE | <p>* IUCLID</p> <p>Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p> <p>Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle. It penetrated only the</p> |
|                  |  |



## Dy-Mark Zinc Guard White Primer

outermost layer of the skin, suggesting that healthy skin may be an effective barrier. There is no substantive data on genetic damage, though cases have been reported in experimental animals. Studies have differing conclusions on its cancer-causing potential. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

Inhalation (rat) TLo: 1320 ppm/6h/90D-I \* [Devoe]

For Low Boiling Point Naphthas (LBPNS):

**Acute toxicity:**

LBPNS generally have low acute toxicity by the oral (median lethal dose [LD50] in rats > 2000 mg/kg-bw), inhalation (LD50 in rats > 5000 mg/m3) and dermal (LD50 in rabbits > 2000 mg/kg-bw) routes of exposure. Most LBPNS are mild to moderate eye and skin irritants in rabbits, with the exception of heavy catalytic cracked and heavy catalytic reformed naphthas, which have higher primary skin irritation indices.

**Sensitisation:**

LBPNS do not appear to be skin sensitizers, but a poor response in the positive control was also noted in these studies

**Repeat dose toxicity:**

The lowest-observed-adverse-effect concentration (LOAEC) and lowest-observed-adverse-effect level (LOAEL) values identified following short-term (2-89 days) and subchronic (greater than 90 days) exposure to the LBPNS substances. These values were determined for a variety of endpoints after considering the toxicity data for all LBPNS in the group. Most of the studies were carried out by the inhalation route of exposure. Renal effects, including increased kidney weight, renal lesions (renal tubule dilation, necrosis) and hyaline droplet formation, observed in male rats exposed orally or by inhalation to most LBPNS, were considered species- and sex-specific. These effects were determined to be due to a mechanism of action not relevant to humans -specifically, the interaction between hydrocarbon metabolites and alpha-2-microglobulin, an enzyme not produced in substantial amounts in female rats, mice and other species, including humans. The resulting nephrotoxicity and subsequent carcinogenesis in male rats were therefore not considered in deriving LOAEC/LOAEL values.

Only a limited number of studies of short-term and subchronic duration were identified for site-restricted LBPNS. The lowest LOAEC identified in these studies, via the inhalation route, is 5475 mg/m3, based on a concentration-related increase in liver weight in both male and female rats following a 13-week exposure to light catalytic cracked naphtha. Shorter exposures of rats to this test substance resulted in nasal irritation at 9041 mg/m3

No systemic toxicity was reported following dermal exposure to light catalytic cracked naphtha, but skin irritation and accompanying histopathological changes were increased, in a dose-dependent manner, at doses as low as 30 mg/kg-bw per day when applied 5 days per week for 90 days in rats

No non-cancer chronic toxicity studies (= 1 year) were identified for site-restricted LBPNS and very few non-cancer chronic toxicity studies were identified for other LBPNS. An LOAEC of 200 mg/m3 was noted in a chronic inhalation study that exposed mice and rats to unleaded gasoline (containing 2% benzene). This inhalation LOAEC was based on ocular discharge and ocular irritation in rats. At the higher concentration of 6170 mg/m3, increased kidney weight was observed in male and female rats (increased kidney weight was also observed in males only at 870 mg/m3). Furthermore, decreased body weight in male and female mice was also observed at 6170 mg/m3

A LOAEL of 714 mg/kg-bw was identified for dermal exposure based on local skin effects (inflammatory and degenerative skin changes) in mice following application of naphtha for 105 weeks. No systemic toxicity was reported.

**Genotoxicity:**

Although few genotoxicity studies were identified for the site-restricted LBPNS, the genotoxicity of several other LBPNS substances has been evaluated using a variety of in vivo and in vitro assays. While in vivo genotoxicity assays were negative overall, the in vitro tests exhibited mixed results.

For in vivo genotoxicity tests, LBPNS exhibited negative results for chromosomal aberrations and micronuclei induction, but exhibited positive results in one sister chromatid exchange assay although this result was not considered definitive for clastogenic activity as no genetic material was unbalanced or lost. Mixtures that were tested, which included a number of light naphthas, displayed mixed results (i.e., both positive and negative for the same assay) for chromosomal aberrations and negative results for the dominant lethal mutation assay. Unleaded gasoline (containing 2% benzene) was tested for its ability to induce unscheduled deoxyribonucleic acid (DNA) synthesis (UDS) and replicative DNA synthesis (RDS) in rodent hepatocytes and kidney cells. UDS and RDS were induced in mouse hepatocytes via oral exposure and RDS was induced in rat kidney cells via oral and inhalation exposure. Unleaded gasoline (benzene content not stated) exhibited negative results for chromosomal aberrations and the dominant lethal mutation assay and mixed results for atypical cell foci in rodent renal and hepatic cells.

For in vitro genotoxicity studies, LBPNS were negative for six out of seven Ames tests, and were also negative for UDS and for forward mutations. LBPNS exhibited mixed or equivocal results for the mouse lymphoma and sister chromatid exchange assays, as well as for cell transformation and positive results for one bacterial DNA repair assay. Mixtures that were tested, which included a number of light naphthas, displayed negative results for the Ames and mouse lymphoma assays. Gasoline exhibited negative results for the Ames test battery, the sister chromatid exchange assay and for one mutagenicity assay. Mixed results were observed for UDS and the mouse lymphoma assay.

While the majority of in vivo genotoxicity results for LBPNS substances are negative, the potential for genotoxicity of LBPNS as a group cannot be discounted based on the mixed in vitro genotoxicity results.

**Carcinogenicity:**

Although a number of epidemiological studies have reported increases in the incidence of a variety of cancers, the majority of these studies are considered to contain incomplete or inadequate information. Limited data, however, are available for skin cancer and leukemia incidence, as well as mortality among petroleum refinery workers. It was concluded that there is limited evidence supporting the view that working in petroleum refineries entails a carcinogenic risk (Group 2A carcinogen). IARC (1989a) also classified gasoline as a Group 2B carcinogen; it considered the evidence for carcinogenicity in humans from gasoline to be inadequate and noted that published epidemiological studies had several limitations, including a lack of exposure data and the fact that it was not possible to separate the effects of combustion products from those of gasoline itself. Similar conclusions were drawn from other reviews of epidemiological studies for gasoline (US EPA 1987a, 1987b). Thus, the evidence gathered from these epidemiological studies is considered to be inadequate to conclude on the effect

s of human exposure to LBPNS substances.

No inhalation studies assessing the carcinogenicity of the site-restricted LBPNS were identified. Only unleaded gasoline has been examined for its carcinogenic potential, in several inhalation studies. In one study, rats and mice were exposed to 0, 200, 870 or 6170 mg/m3 of a 2% benzene formulation of the test substance, via inhalation, for approximately 2 years. A statistically significant increase in hepatocellular adenomas and carcinomas, as well as a non-statistical increase in renal tumours, were observed at the highest dose in female mice. A dose-dependent increase in the incidence of primary renal neoplasms was also detected in male rats, but this was not considered to be relevant to humans, as discussed previously. Carcinogenicity was also assessed for unleaded gasoline, via inhalation, as part of initiation/promotion studies. In these studies, unleaded gasoline did not appear to initiate tumour formation, but did show renal cell and hepatic tumour promotion ability, when rats and mice were exposed, via inhalation, for durations ranging from 13 weeks to approximately 1 year using an initiation/promotion protocol. However, further examination of data relevant to the composition of unleaded gasoline demonstrated that this is a highly-regulated substance; it is expected to contain a lower percentage of benzene and has a discrete component profile when compared to other substances in the LBPNS group.

Both the European Commission and the International Agency for Research on Cancer (IARC) have classified LBPNS substances as carcinogenic. All of these substances were classified by the European Commission (2008) as Category 2 (R45: may cause cancer) (benzene content = 0.1% by weight). IARC has classified gasoline, an LBPNS, as a Group 2B carcinogen (possibly carcinogenic to humans) and "occupational exposures in petroleum refining" as Group 2A carcinogens (probably carcinogenic to humans).

Several studies were conducted on experimental animals to investigate the dermal carcinogenicity of LBPNS. The majority of these studies were conducted through exposure of mice to doses ranging from 694-1351 mg/kg-bw, for durations ranging from 1 year to the animals lifetime or until a tumour persisted for 2 weeks. Given the route of exposure, the studies specifically examined the formation of skin tumours. Results for carcinogenicity via dermal exposure are mixed. Both malignant and benign skin tumours were induced with heavy catalytic cracked naphtha, light catalytic cracked naphtha, light

straight-run naphtha and naphtha. Significant increases in squamous cell carcinomas were also observed when mice were dermally treated with Stoddard solvent, but the latter was administered as a mixture (90% test substance), and the details of the study were not available. In contrast,

**NAPHTHA PETROLEUM,  
LIGHT AROMATIC SOLVENT**

### Dy-Mark Zinc Guard White Primer

insignificant increases in tumour formation or no tumours were observed when light alkylate naphtha, heavy catalytic reformed naphtha, sweetened naphtha, light catalytically cracked naphtha or unleaded gasoline was dermally applied to mice. Negative results for skin tumours were also observed in male mice dermally exposed to sweetened naphtha using an initiation/promotion protocol.

#### Reproductive/ Developmental toxicity:

No reproductive or developmental toxicity was observed for the majority of LBP substances evaluated. Most of these studies were carried out by inhalation exposure in rodents.

NOAEC values for reproductive toxicity following inhalation exposure ranged from 1701 mg/m<sup>3</sup> (CAS RN 8052-41-3) to 27 687 mg/m<sup>3</sup> (CAS RN 64741-63-5) for the LBP substances group evaluated, and from 7690 mg/m<sup>3</sup> to 27 059 mg/m<sup>3</sup> for the site-restricted light catalytic cracked and full-range catalytic reformed naphthas. However, a decreased number of pups per litter and higher frequency of post-implantation loss were observed following inhalation exposure of female rats to hydrotreated heavy naphtha (CAS RN 64742-48-9) at a concentration of 4679 mg/m<sup>3</sup>, 6 hours per day, from gestational days 7-20. For dermal exposures, NOAEL values of 714 mg/kg-bw (CAS RN 8030-30-6) and 1000 mg/kg-bw per day (CAS RN 68513-02-0) were noted. For oral exposures, no adverse effects on reproductive parameters were reported when rats were given site-restricted light catalytic cracked naphtha at 2000 mg/kg on gestational day 13.

For most LBP substances, no treatment-related developmental effects were observed by the different routes of exposure. However, developmental toxicity was observed for a few naphthas. Decreased foetal body weight and an increased incidence of ossification variations were observed when rat dams were exposed to light aromatized solvent naphtha, by gavage, at 1250 mg/kg-bw per day. In addition, pregnant rats exposed by inhalation to hydrotreated heavy naphtha at 4679 mg/m<sup>3</sup> delivered pups with higher birth weights. Cognitive and memory impairments were also observed in the offspring.

#### Low Boiling Point Naphthas [Site-Restricted]

Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.

The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver.

#### For trimethylbenzenes:

Absorption of 1,2,4-trimethylbenzene occurs after exposure by swallowing, inhalation, or skin contact. In the workplace, inhalation and skin contact are the most important routes of absorption; whole-body toxic effects from skin absorption are unlikely to occur as the skin irritation caused by the chemical generally leads to quick removal. The substance is fat-soluble and may accumulate in fatty tissues. It is also bound to red blood cells in the bloodstream. It is excreted from the body both by exhalation and in the urine.

Acute toxicity: Direct contact with liquid 1,2,4-trimethylbenzene is irritating to the skin, and breathing the vapour is irritating to the airway, causing lung inflammation. Breathing high concentrations of the chemical vapour causes headache, fatigue and drowsiness. In humans, liquid 1,2,4-trimethylbenzene is irritating to the skin and inhalation of the vapour causes chemical pneumonitis. Direct skin contact causes dilation of blood vessels, redness and irritation.

Nervous system toxicity: 1,2,4-trimethylbenzene depresses the central nervous system. Exposure to solvent mixtures in the workplace containing the chemical causes headache, fatigue, nervousness and drowsiness.

Subacute/chronic toxicity: Long-term exposure to solvents containing 1,2,4-trimethylbenzene may cause nervousness, tension and inflammation of the bronchi. Painters that worked for several years with a solvent containing 50% 1,2,4-trimethylbenzene and 30% 1,3,5-trimethylbenzene showed nervousness, tension and anxiety, asthmatic bronchitis, anaemia and changes in blood clotting; blood effects may have been due to trace amounts of benzene. Animal testing showed that inhaling trimethylbenzene may alter blood counts, with reduction in lymphocytes and an increase in neutrophils.

Genetic toxicity: Animal testing does not show that the C9 fraction causes mutations or chromosomal aberrations.

Developmental / reproductive toxicity: Animal testing showed that the C9 fraction of 1,2,4-trimethylbenzene caused reproductive toxicity.

For C9 aromatics (typically trimethylbenzenes – TMBs)

Acute toxicity: Animal testing shows that semi-lethal concentrations and doses vary amongst this group. The semilethal concentrations for inhalation range from 6000 to 10000 mg/cubic metre for C9 aromatic naphtha and 18000-24000 mg/cubic metre for 1,2,4- and 1,3,5-TMB, respectively.

Irritation and sensitization: Results from animal testing indicate that C9 aromatic hydrocarbon solvents are mildly to moderately irritating to the skin, minimally irritating to the eye, and have the potential to irritate the airway and cause depression of breathing rate. There is no evidence that it sensitizes skin.

Repeated dose toxicity: Animal studies show that chronic inhalation toxicity for C9 aromatic hydrocarbon solvents is slight. Similarly, oral exposure does not appear to pose a high toxicity hazard for pure trimethylbenzene isomers.

Mutation-causing ability: No evidence of mutation-causing ability and genetic toxicity was found in animal and laboratory testing.

Reproductive and developmental toxicity: No definitive effects on reproduction were seen, although reduction in weight in developing animals may be seen at concentrations that are toxic to the mother.

For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation. Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans.

Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants).

Reproductive toxicity: Animal studies show that high concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.



Human effects: Prolonged or repeated contact may cause defatting of the skin which can lead to skin inflammation and may make the skin more susceptible to irritation and penetration by other materials.

Animal testing shows that exposure to gasoline over a lifetime can cause kidney cancer, but the relevance in humans is questionable.

|  |  |
|--|--|
| <b>HYDROCARBON PROPELLANT</b>                        | inhalation of the gas  |
| <b>XYLENE &amp; TITANIUM DIOXIDE &amp; ETHANOL</b>   | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| <b>TITANIUM DIOXIDE &amp; HYDROCARBON PROPELLANT</b> | No significant acute toxicological data identified in literature search.   |

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ✗ | <b>Carcinogenicity</b>          | ✗ |
| <b>Skin Irritation/Corrosion</b>         | ✓ | <b>Reproductivity</b>           | ✗ |
| <b>Serious Eye Damage/Irritation</b>     | ✓ | <b>STOT - Single Exposure</b>   | ✓ |
| <b>Respiratory or Skin sensitisation</b> | ✗ | <b>STOT - Repeated Exposure</b> | ✗ |
| <b>Mutagenicity</b>                      | ✓ | <b>Aspiration Hazard</b>        | ✗ |

## Dy-Mark Zinc Guard White Primer

**Legend:**  - Data either not available or does not fulfil the criteria for classification  
 - Data available to make classification

## SECTION 12 Ecological information

## Toxicity

| Dy-Mark Zinc Guard White Primer           | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|---|--|--------------------|-------------------------------|---------------|---------------|
|   | Not Available  | Not Available      | Not Available                 | Not Available | Not Available |
| xylene                                    | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | NOEC(ECx)  | 73h                | Algae or other aquatic plants | 0.44mg/l      | 2             |
|   | LC50   | 96h                | Fish                          | 2.6mg/l       | 2             |
|   | EC50   | 72h                | Algae or other aquatic plants | 4.6mg/l       | 2             |
|   | EC50   | 48h                | Crustacea                     | 1.8mg/l       | 2             |
| titanium dioxide                          | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | BCF  | 1008h              | Fish                          | <1.1-9.6      | 7             |
|   | NOEC(ECx)  | 504h               | Crustacea                     | 0.02mg/l      | 4             |
|   | LC50   | 96h                | Fish                          | 1.85-3.06mg/l | 4             |
|   | EC50   | 72h                | Algae or other aquatic plants | 3.75-7.58mg/l | 4             |
|   | EC50   | 48h                | Crustacea                     | 1.9mg/l       | 2             |
|   | EC50   | 96h                | Algae or other aquatic plants | 179.05mg/l    | 2             |
| zinc phosphate                            | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | EC50(ECx)  | 24h                | Crustacea                     | 0.22mg/l      | 2             |
|   | EC50   | 48h                | Crustacea                     | >1.08mg/l     | 2             |
| naphtha petroleum, light aromatic solvent | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | NOEC(ECx)  | 72h                | Algae or other aquatic plants | 1mg/l         | 1             |
|   | EC50   | 72h                | Algae or other aquatic plants | 19mg/l        | 1             |
|   | EC50   | 48h                | Crustacea                     | 6.14mg/l      | 1             |
|   | EC50   | 96h                | Algae or other aquatic plants | 64mg/l        | 2             |
| ethanol                                   | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | EC50(ECx)  | 96h                | Algae or other aquatic plants | <0.001mg/L    | 4             |
|   | LC50   | 96h                | Fish                          | >100mg/l      | 2             |
|   | EC50   | 72h                | Algae or other aquatic plants | 275mg/l       | 2             |
|   | EC50   | 48h                | Crustacea                     | >79mg/L       | 4             |
|   | EC50   | 96h                | Algae or other aquatic plants | <0.001mg/L    | 4             |
| hydrocarbon propellant                    | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|   | EC50(ECx)  | 96h                | Algae or other aquatic plants | 7.71mg/l      | 2             |
|   | LC50   | 96h                | Fish                          | 24.11mg/l     | 2             |
|   | EC50   | 96h                | Algae or other aquatic plants | 7.71mg/l      | 2             |
|   | EC50(ECx)  | 96h                | Algae or other aquatic plants | 7.71mg/l      | 2             |
|   | LC50   | 96h                | Fish                          | 24.11mg/l     | 2             |
|   | EC50   | 96h                | Algae or other aquatic plants | 7.71mg/l      | 2             |
| <b>Legend:</b>                            | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                    |                               |               |               |

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

**DO NOT** discharge into sewer or waterways.

## Persistence and degradability

| Ingredient       | Persistence: Water/Soil     | Persistence: Air            |
|------------------|-----------------------------|-----------------------------|
| xylene           | HIGH (Half-life = 360 days) | LOW (Half-life = 1.83 days) |
| titanium dioxide | HIGH                        | HIGH                        |
| ethanol          | LOW (Half-life = 2.17 days) | LOW (Half-life = 5.08 days) |

## Bioaccumulative potential

| Ingredient | Bioaccumulation    |
|------------|--------------------|
| xylene     | MEDIUM (BCF = 740) |

Continued...

## Dy-Mark Zinc Guard White Primer

| Ingredient       | Bioaccumulation      |
|------------------|----------------------|
| titanium dioxide | LOW (BCF = 10)       |
| ethanol          | LOW (LogKOW = -0.31) |

## Mobility in soil

| Ingredient       | Mobility          |
|------------------|-------------------|
| titanium dioxide | LOW (KOC = 23.74) |
| ethanol          | HIGH (KOC = 1)    |



## SECTION 13 Disposal considerations

## Waste treatment methods

|                              |   |
|------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> <li>▶ <b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT</b> incinerate or puncture aerosol cans.</li> <li>▶ Bury residues and emptied aerosol cans at an approved site.</li> </ul> |
|------------------------------|---|

## SECTION 14 Transport information

## Labels Required

|                  |   |
|------------------|---|
|                  |   |
| Marine Pollutant |  |
| HAZCHEM          | Not Applicable  |

## Land transport (ADG)

|                              |  |                    |                        |                  |                |
|------------------------------|--|--------------------|------------------------|------------------|----------------|
| UN number                    | 1950   |                    |                        |                  |                |
| UN proper shipping name      | AEROSOLS   |                    |                        |                  |                |
| Transport hazard class(es)   | <table> <tr> <td>Class</td><td>2.1</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>                                  | Class              | 2.1                    | Subrisk          | Not Applicable |
| Class                        | 2.1  |                    |                        |                  |                |
| Subrisk                      | Not Applicable   |                    |                        |                  |                |
| Packing group                | Not Applicable   |                    |                        |                  |                |
| Environmental hazard         | Environmentally hazardous  |                    |                        |                  |                |
| Special precautions for user | <table> <tr> <td>Special provisions</td><td>63 190 277 327 344 381</td></tr> <tr> <td>Limited quantity</td><td>1000ml</td></tr> </table> | Special provisions | 63 190 277 327 344 381 | Limited quantity | 1000ml         |
| Special provisions           | 63 190 277 327 344 381   |                    |                        |                  |                |
| Limited quantity             | 1000ml   |                    |                        |                  |                |

## Air transport (ICAO-IATA / DGR)

|   |  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
|---|--|--------------------|----------------|---------------------------------|----------------|-------------------------------|--------|--|-----|--|-------|---|------|
| UN number   | 1950   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| UN proper shipping name                                   | Aerosols, flammable  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Transport hazard class(es)                                | <table> <tr> <td>ICAO/IATA Class</td><td>2.1</td></tr> <tr> <td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>10L</td></tr> </table>  | ICAO/IATA Class    | 2.1            | ICAO / IATA Subrisk             | Not Applicable | ERG Code                      | 10L    |  |     |  |       |   |      |
| ICAO/IATA Class   | 2.1  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| ICAO / IATA Subrisk                                       | Not Applicable   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| ERG Code  | 10L  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Packing group   | Not Applicable   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Environmental hazard                                      | Environmentally hazardous  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Special precautions for user                              | <table> <tr> <td>Special provisions</td><td>A145 A167 A802</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>203</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>150 kg</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>203</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>75 kg</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y203</td></tr> </table> | Special provisions | A145 A167 A802 | Cargo Only Packing Instructions | 203            | Cargo Only Maximum Qty / Pack | 150 kg | Passenger and Cargo Packing Instructions | 203 | Passenger and Cargo Maximum Qty / Pack | 75 kg | Passenger and Cargo Limited Quantity Packing Instructions | Y203 |
| Special provisions  | A145 A167 A802   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Cargo Only Packing Instructions                           | 203  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Cargo Only Maximum Qty / Pack                             | 150 kg   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Passenger and Cargo Packing Instructions                  | 203  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Passenger and Cargo Maximum Qty / Pack                    | 75 kg  |                    |                |                                 |                |                               |        |  |     |  |       |   |      |
| Passenger and Cargo Limited Quantity Packing Instructions | Y203   |                    |                |                                 |                |                               |        |  |     |  |       |   |      |

# **Dy-Mark Zinc Guard White Primer**

Passenger and Cargo Limited Maximum Qty / Pack 30 kg G

## **Sea transport (IMDG-Code / GGVSee)**

|                                     |                    |                            |
|-------------------------------------|--------------------|----------------------------|
| <b>UN number</b>                    | 1950               |                            |
| <b>UN proper shipping name</b>      | AEROSOLS           |                            |
| <b>Transport hazard class(es)</b>   | IMDG Class         | 2.1                        |
|                                     | IMDG Subrisk       | Not Applicable             |
| <b>Packing group</b>                | Not Applicable     |                            |
| <b>Environmental hazard</b>         | Marine Pollutant   |                            |
| <b>Special precautions for user</b> | EMS Number         | F-D , S-U                  |
|                                     | Special provisions | 63 190 277 327 344 381 959 |
|                                     | Limited Quantities | 1000 ml                    |

## **Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

## **Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

| Product name                              | Group         |
|---|---------------|
| xylene                                    | Not Available |
| titanium dioxide                          | Not Available |
| zinc phosphate                            | Not Available |
| naphtha petroleum, light aromatic solvent | Not Available |
| ethanol                                   | Not Available |
| hydrocarbon propellant                    | Not Available |

## **Transport in bulk in accordance with the ICG Code**

| Product name                              | Ship Type     |
|---|---------------|
| xylene                                    | Not Available |
| titanium dioxide                          | Not Available |
| zinc phosphate                            | Not Available |
| naphtha petroleum, light aromatic solvent | Not Available |
| ethanol                                   | Not Available |
| hydrocarbon propellant                    | Not Available |

## **SECTION 15 Regulatory information**

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

#### **xylene is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

#### **titanium dioxide is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)  
 Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans  
 International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

#### **zinc phosphate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australian Inventory of Industrial Chemicals (AIIC)

#### **naphtha petroleum, light aromatic solvent is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

#### **ethanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

#### **hydrocarbon propellant is found on the following regulatory lists**

Continued...

## Dy-Mark Zinc Guard White Primer

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

## National Inventory Status

| National Inventory                              | Status   |
|---|--|
| Australia - AIIC / Australia Non-Industrial Use | Yes  |
| Canada - DSL                                    | Yes  |
| Canada - NDSL                                   | No (xylene; naphtha petroleum, light aromatic solvent; ethanol; hydrocarbon propellant)  |
| China - IECSC                                   | Yes  |
| Europe - EINEC / ELINCS / NLP                   | Yes  |
| Japan - ENCS                                    | Yes  |
| Korea - KECI                                    | Yes  |
| New Zealand - NZIoC                             | Yes  |
| Philippines - PICCS                             | Yes  |
| USA - TSCA                                      | Yes  |
| Taiwan - TCSI                                   | Yes  |
| Mexico - INSQ                                   | No (zinc phosphate)  |
| Vietnam - NCI                                   | Yes  |
| Russia - FBEPH                                  | Yes  |
| <b>Legend:</b>                                  | <p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p> |

## SECTION 16 Other information

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 27/08/2020 |
| <b>Initial Date</b>  | 28/04/2014 |

## SDS Version Summary

| Version | Date of Update | Sections Updated   |
|---------|----------------|--|
| 8.1     | 01/11/2019     | One-off system update. NOTE: This may or may not change the GHS classification |
| 9.1     | 27/08/2020     | Disposal   |

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

## Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit.  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 ES: Exposure Standard  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index  
 AIIC: Australian Inventory of Industrial Chemicals  
 DSL: Domestic Substances List  
 NDSL: Non-Domestic Substances List  
 IECSC: Inventory of Existing Chemical Substance in China  
 EINECS: European Inventory of Existing Commercial chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 NLP: No-Longer Polymers  
 ENCS: Existing and New Chemical Substances Inventory  
 KECI: Korea Existing Chemicals Inventory  
 NZIoC: New Zealand Inventory of Chemicals  
 PICCS: Philippine Inventory of Chemicals and Chemical Substances  
 TSCA: Toxic Substances Control Act  
 TCSI: Taiwan Chemical Substance Inventory  
 INSQ: Inventario Nacional de Sustancias Químicas  
 NCI: National Chemical Inventory  
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

This document is copyright.

Continued...

**Dy-Mark Zinc Guard White Primer**

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.  
TEL (+61 3) 9572 4700.