MSDS – RED OXIDE PRIMER

VALIANT ENVIRONMENTAL COMPOUNDS PTY. LTD.
ABN 87 105 878 555
P.O. Box 648 PADSTOW, N.S.W. 2211
PHONE (02) 9792 5799 FAX (02) 9792 6744

Hazardous according to criteria of Worksafe Australia

1. IDENTIFICATION

PRODUCT NAME	: WB032 RED OXIDE PRIMER		
AVAILABLE COLORS	: 6230 RED OXIDE		
U.N. NUMBER	: Not Applicable	CAS NUMBER	: Not Available
DANGEROUS GOODS CLASS	: Not Applicable	PACKAGING GROUP	: II
SUBSIDIARY RISK	: Not Applicable	HAZCHEM CODE	: Not Applicable
POISONS SCHEDULE	: S5		

USE : High quality - tough flexible Primer, which can then be overcoated with air dry enamels and low baking finish coats. **<u>For Industrial Use Only In Areas Complying With Relevant Regulations.</u>**

PHYSICAL DESCRIPTION / PROPERTIES

APPEARANCE		: Red Oxide Primer.	
BOILING POINT	(℃)	: 100.0	(Water)
VAPOUR PRESSURE	(mm Hg. 20 ℃)	: 17.5	(Water)
SPECIFIC GRAVITY	(@ 25 ℃)	: 1.30 ± 0.01	(Water = 1)
% VOLATILES	(by volume)	: 53.50 ± 0.01	
EVAPORATION RATE		: < 1.0 (Water)	(Butyl Acetate =1)
FLASH POINT	(℃)	: Aqueous solution will not flash.	
FLAMMABILITY LIMITS (% Volume)		: Non Flammable	
AUTOIGNITION TEMPERATURE	(℃)	: > 371.0 ℃	(Acrylic Polymer)
SOLUBILITY IN WATER		: Complete	

INGREDIENTS

CHEMICAL ENTITY	**CAS No.**	**PROPORTION (% w/w)**
PETROLEUM HYDROCARBONS MIXTURE AROMATIC	N/A	< 10
ETHYLENE GLYCOL MONOALKYL ETHERS	N/A	< 10
GLYCOL ESTER	N/A	< 10
ACRYLIC POLYMERS (Proprietary Blend)	Non Hazardous	10 - 30
ZINC PHOSPHATE HYDRATE	7779-90-0	< 10
INERT FILLERS / PIGMENTS	Non Hazardous	30 - 60
MISCELLANEOUS ADDITIVES	N/A	< 10
WATER	Non Hazardous	to 100

More detailed information available to medical staff in case of an emergency.

2. HEALTH HAZARD INFORMATION

HEALTH EFFECTS - ACUTE EXPOSURE
No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label.
Principal routes of exposure are usually by inhalation of vapour and skin contact/absorption.
Acute (short term) health effects may occur immediately or shortly after exposure to this product.
High vapour concentrations are irritating to the eyes and the respiratory tract, may cause vomiting, coughing,

pulmonary irritation, headaches and dizziness, are anaesthetic and may have other central nervous system effects.
Lower levels may cause trouble concentrating, headaches, and slowed reflexes.
If a large amount (>1 ml/kg) is ingested and retained can cause gastrointestinal irritation, kidney damage and central nervous system effects occur and include weakness, dizziness, unconsciousness and convulsions.
Evidence from animal tests indicate that chronic solvent inhalation exposures may result in nervous system impairment, kidney disorders and liver and blood changes [PATTYS]
Prolonged, repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.
Effects of solvents on human health and the environment depend on how much solvent is present and the length and frequency of exposure.
Effects also depend on the health of a person or the condition of the environment when exposure occurs.

TARGET ORGANS : Respiratory system, eyes, GI tract, reproductive system, liver and kidneys
ROUTES OF ENTRY : Inhalation, ingestion, eye contact, skin contact, absorption
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
: Skin disorders, kidney, liver, or blood disorders

SWALLOWED
Considered an unlikely route of entry in commercial/industrial environments.
The liquid is irritating to mouth, throat and the gastrointestinal tract and may be harmful if swallowed in quantity.
Large quantities may coagulate and block the intestinal tract.
Ingestion can result in nausea, cramps, abdominal pain, vomiting, diarrhoea and central nervous system depression.
Small amounts of liquid aspirated into respiratory system during ingestion or from vomiting may cause, broncho-pneumonia pulmonary oedema or potentially lethal chemical pneumonitis.
If the victim is uncoordinated there is a greater likelihood of vomit entering the lungs and causing subsequent complications.

EYE
The liquid is moderately irritating to the eyes and is capable of causing temporary discomfort with mild redness of the conjunctiva (similar to wind burn), temporary impairment of vision and other transient eye damage.
The vapour is irritating to the eyes if exposure is prolonged.

SKIN
The liquid can be irritating to the skin if contact is prolonged and may cause defatting and drying of the skin which may lead to dermatitis from repeated exposures over long periods due to the degreasing effect of the surfactants present.
Capable of being absorbed by the skin and may cause central nervous system depression.
Toxic effects may result from skin absorption.
Capable of causing skin sensitisation and allergic skin reactions.
Open cuts, abraded or irritated skin should not be exposed to this material.
The material may accentuate any pre-existing skin condition.

INHALED
Acute effects from inhalation of vapour/mist concentrations above recommended exposure levels produce dryness of the mouth and throat, low blood pressure and rapid and irregular pulse, pulmonary irritation, are extremely irritating to the eyes, mucous membranes and the upper respiratory tract (with coughing and sneezing), could be anaesthetic and may have other central nervous system effects (characterized by headache, drowsiness, dizziness, nausea and vomiting, increased reaction time, fatigue, loss of co-ordination, impaired judgement, lassitude, irritability, tingling in fingers and toes and in extreme cases coma), gastrointestinal disturbances (e.g. nausea, anorexia and flatulence), as well as affecting the kidneys, liver, and the heart.
Inhalation hazard is increased at higher temperatures.
Toxic effects are increased by consumption of alcohol.
Repeated exposure may cause sensitisation and/or allergic reactions.
Aspiration of liquid into lungs can cause serious (even fatal) pneumonitis.
If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

HEALTH EFFECTS - CHRONIC EXPOSURE

Chronic (long term) health effects can occur at some time after exposure to this product and can last for months or years.
Principal routes of exposure are usually by skin contact/absorption and inhalation of vapour.
Prolonged or repeated skin contact with liquid may cause defatting with drying, cracking, irritation and dermatitis following.
Can be absorbed through the skin with resultant toxic effects.
Evidence from animal tests indicate that repeated or prolonged solvent inhalation exposures could result in kidney disorders, nervous system impairment, liver, lung and blood changes. [PATTYS].
This chemical has not been adequately evaluated to determine whether brain or other nerve damage could occur with repeated exposure.
However, many solvents and other petroleum based chemicals have been shown to cause such damage.
Effects may include reduced memory and concentration, personality changes (withdrawal, irritability), fatigue, sleep disturbances, reduced coordination, and/or effects on nerves supplying internal organs (autonomic nerves) and/or nerves to the arms and legs (weakness, "pins and needles").
Glycol ethers have been shown to cause testicular degeneration, reduced sperm counts, foetal damage and malformations, and adverse haematological effects in several animal species.

FIRST AID

SWALLOWED
Harmful if swallowed.
Rinse mouth out with plenty of water. Give a glass of water or milk to drink to dilute the chemical.
Do **NOT** give anything by mouth to an unconscious person.
If swallowed, do **NOT** induce vomiting due to the hazard of solvent aspiration into the lungs which may cause mild to severe pulmonary injury and possibly death.
Tends to break into a foam if the patient vomits.
Should vomiting occur, place patient's head downwards, head lower than hips, to prevent vomit entering the lungs.
This is especially important as aspiration of this material into the lungs can cause chemical pneumonia, which can be fatal.
Call a doctor and/or transport to an emergency facility or hospital IMMEDIATELY.

EYE
If this product comes in contact with the eyes:
First check the victim for contact lenses and remove if present.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Immediately and continuously irrigate with copious quantities of fresh, low pressure, running water for at least 15 minutes.
Eyelids should be held open. Ensure irrigation under the eyelids by occasionally lifting upper and lower lids.
Remove any contaminated clothing and gently flush area with water until irritation subsides.
If pain persists or recurs, seek IMMEDIATE medical attention.

SKIN
If this product comes in contact with the skin:
Immediately soak contaminated clothing, including footwear, with water and then remove.
Gently wash the affected areas thoroughly with water, then mild soap and water.
If exposure has been prolonged or severe or if swelling, redness or irritation occur seek medical advice.
Launder contaminated clothing before re-use.
Thoroughly dry contaminated shoes before re-use.
Discard internally contaminated gloves and footwear.

INHALED
If fumes or combustion products are inhaled:
Remove affected person(s) to fresh air, taking care not to become affected yourself.
Remove any contaminated clothing and loosen remaining clothing.
If breathing is normal, allow the patient to assume the most comfortable position and keep warm.
Keep at rest until fully recovered.
If breathing is difficult and patient is cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a face mask.

If breathing has stopped, commence Expired Air Resuscitation (E.A.R.).
In the event of cardiac arrest, commence Cardio-Pulmonary Resuscitation (C.P.R.).
Seek IMMEDIATE medical attention or transport to hospital, or doctor, without delay.

Poison Information Centres in each State capital city can provide additional assistance for scheduled poisons.

ADVICE TO DOCTOR
Treat symptomatically.
Principal routes of exposure are skin contact/absorption and inhalation of the vapour/spray mist.
Onset of symptoms may be delayed several hours after exposure.
Primary threat to life from ingestion and/or inhalation, is respiratory failure.
Extreme care must be taken to prevent aspiration. Pulmonary oedema is a possible complication following aspiration.
Gastric lavage with a cuffed endotracheal tube to prevent further aspiration should be done.
In the absence of depression or convulsions, or impaired gag-reflex, ipetic emesis can also be done without increasing the hazard of aspiration.
When vomiting occurs, hold patient with head below the hips to prevent pulmonary aspiration.

If symptoms develop or overexposure is suspected, the following may be useful :
A complete blood count to include at least a red cell count, a white cell count, haemoglobin and haematocrit.
Liver and kidney function tests, and evaluation for renal tubular acidosis.
Examination of the nervous system.
A comprehensive physical examination with emphasis on haematological and pulmonary systems, mucous membranes, skin and eyes.
Interview for brain effects, including recent memory, mood (irritability, withdrawal), concentration, headaches, malaise and altered sleep patterns.
Consider cerebellar, autonomic and peripheral nervous system evaluation.
Positive and borderline individuals should be referred for neuropsychological testing.
Comprehensive medical, work and reproductive histories with special emphasis directed to the haematological system and symptoms related to pulmonary and mucous membrane irritation, skin and eyes.
For those with frequent or potentially high exposure (half the TLV or greater, or significant skin contact), the following is recommended before beginning work and at regular times after that: Liver and kidney function tests.
Any evaluation should include a careful history of past and present symptoms with an exam.
Medical tests that look for damage already done are not a substitute for controlling exposure.
In addition, the physician should determine the worker's suitability for respirator use.
Workers or job applicants who have medical conditions that would be aggravated by the use of a respirator need to receive counselling on the increased risk of impairment of their health.
In certain cases, to provide sound medical advice to the employer and the employee, the physician must evaluate situations not directly related to the components contained in this product.
For example, employees with skin diseases, whether or not they are product related, may be unable to tolerate wearing protective clothing.
In addition, those with chronic respiratory diseases may not tolerate the wearing of respirators.
Additional tests and procedures that will help the physician determine which employees are medically unable to wear respirators must include a pulmonary function test with measurement of the employee's forced vital capacity (FVC), and forced expiratory volume at one second (FEV1).
Ratios of FEV1 to FVC as well as measured FVC and measured FEV1 to their expected values corrected for variations due to age, sex, race, and height must be calculated. Whether a chest X-ray will provide useful information should be considered.

3. PRECAUTIONS FOR USE

EXPOSURE LIMITS
This Fact Sheet is a summary source of information of all potential and most severe health hazards that may result from exposure.
Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

Exposure to hazardous substances should be routinely evaluated.
This may include collecting personal and air samples.
You have a legal right to obtain copies of sampling results from your employer.
If you think you are experiencing any work related health problems, see a doctor trained to recognize occupational diseases.
Take this MSDS with you.

The following exposure limits are guides to be used in the control of occupational health hazards and are for air levels only.
When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.
Exposure limits with “skin” notation indicate that vapour and liquid may be absorbed through intact skin.
Absorption by skin may readily exceed vapour inhalation exposure.
Symptoms for skin absorption are the same as for inhalation.
Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.
All contact with this chemical should be reduced to the lowest possible level.
Follow applicable regulations (refer WORKSAFE Australia Exposure Standards).

TLV-TWA is the time weighted average concentration of the workplace atmosphere for a normal 8 hour work day and a 40 hour work week, to which nearly all workers may be repeatedly exposed day after day without adverse effect.
These TLV's are issued only as guidelines in the control of occupational health hazards and should not be interpreted as the fine dividing line between safe and dangerous conditions. They are not a measure of relative toxicity.
All atmospheric contamination should be kept to as low a level as is practically possible.

STEL's are expressed as airborne concentrations of substances, averaged over a period of 15 minutes.
This short term TWA concentration should not be exceeded at any time during a normal 8 hour working day.
Workers should not be exposed at the STEL concentration continuously for longer than 15 minutes, or for more than four such periods per working day. A minimum of 170 minutes should be allowed between successive exposures at the STEL concentration.

STEL is the concentration to which workers can be exposed continuously for a short period of time without suffering from:

- irritation
- chronic or irreversible tissue damage, or
- narcosis of a sufficient degree to increase the likelihood of accidental injury, impair self-rescue or materially reduce work efficiency, and provided that the daily TLV-TWA is not exceeded.

Sk Notice - absorption through the skin may be a significant source of exposure.
The exposure standard is invalidated if such contact should occur.

The OSHA standards bear a skin notation, indicating the potential contribution to the overall exposure by the cutaneous route, including mucous membranes and eye, either by airborne or more particularly, by direct contact with the substance.

Peak Limitation - a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

Odour Threshold
When considering the odour threshold of a substance, one finds that reported values are widely divergent.
Two major factors which influence odour detection are differences between individuals in the ability to perceive a particular odour and the methodology employed in conducting the odour threshold determination.

In their "Guide to Industrial Respiratory Protection - Appendix C" , NIOSH states:
Amoore and Hautala (33) found that on average, 95% of a population will have a personal odour threshold that lies within the range from about one-sixteenth to sixteen times the reported mean "odour threshold" for a substance.

In further explanation, Amoore and Hautala state:
The ability of members of the population to detect a given odour is strongly influenced by the innate variability of different persons' olfactory powers, their prior experience with that odour, and by the degree of attention they accord the matter.

MIXED EXPOSURES
Because smoking can cause heart disease, as well as lung cancer, emphysema, and other respiratory problems, it may worsen respiratory conditions caused by chemical exposure.
Even if you have smoked for a long time, stopping now will reduce your risk of developing health problems.
Because more than light alcohol consumption can cause liver damage, drinking alcohol can increase the liver damage caused by this product.

ENGINEERING CONTROLS:
None required when handling small quantities.

OTHERWISE :
Unless a less toxic chemical can be substituted for a hazardous substance, ENGINEERING CONTROLS are the most effective way of reducing exposure.
The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release.
Dilution ventilation is acceptable, but local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment.
Isolating operations can also reduce exposure.
Respirators serve as supplemental protection to reduce employee exposures when engineering and work practice controls are not sufficient to achieve the necessary reduction to or below the TWAs.
It would be useful that all employees who wear respiratory protection be medically screened to determine whether any health conditions exist which could affect the employee's ability to wear a respirator.
Common health problems which could present difficulty with respirator use include claustrophobia, chronic rhinitis, nasal allergies (necessitating frequent removal of the respirator to deal with nasal discharges), and chronic sinusitis.
In addition, difficulties with use of respirators may arise in employees with hypertension, respiratory or cardiac diseases.
A drawback to respirator use is the skin irritation that can develop with some employees, particularly in hot, humid, and/or dirty environments.
Keep containers closed when not in use.
Use away from all ignition sources.
Ensure sufficient ventilation to maintain concentration below exposure standard in warehouse or closed storage areas.
Where rapid build up of vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required.
Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS 2430 – Explosive gas atmospheres for further information concerning ventilation requirements.
Use with local exhaust ventilation or while wearing organic vapour /acid mist respirator (meeting the requirements of AS1715 & AS1716) or dust respirator/air supplied mask.
The effectiveness of an air purifying respirator is limited. Use it only for a single, short term exposure.
Periodic inspection and maintenance of process equipment and control equipment such as ventilation systems is an important work practice control.
Frequently, equipment which is near failure or in disrepair will not perform normally.
If equipment is routinely inspected, replaced, or repaired before failure is likely, the risk of exposure occurring will be reduced.

NOTE
Vapour is heavier than air and may collect in hollows, pits storage tanks or sumps.
Do **NOT** enter confined spaces where vapour may have collected without using an approved, positive pressure, self-contained breathing apparatus (meeting the requirements of AS1715 and AS1716) and an observer is present for assistance.

Ventilation, applied as either a general or local control, is by far the most important engineering control principle

available to the industrial hygienist.
Its principal application is to maintain airborne concentrations of contaminants at acceptable levels in the workplace.
A local exhaust system is used to carry off an air contaminant by capturing it at or near its source, before it spreads throughout the workplace.
General ventilation, on the other hand, lets the contaminant spread throughout the workroom but dilutes it by circulating large quantities of air into and out of the workroom.
A local exhaust system is generally preferred to ventilation-by-dilution (general ventilation only) because it provides a cleaner and healthier work environment.

Engineering controls and work practices are to be used in preference to respirators because there are so many problems associated with their use.

Often work is strenuous and the increased breathing resistance of the respirator reduces its acceptability to employees.
Safety problems are presented by respirators since they limit vision.
In some difficult and dangerous jobs, effective communication facilitates a safe, efficient operation.
Voice transmission through a respirator can be difficult, annoying, and fatiguing.
Movement of the jaw in speaking causes leakage thereby reducing the efficiency of the respirator and decreasing the employee's protection against glycol ethers exposures.
Also, skin irritation can result from wearing a respirator in hot, humid conditions.
Such irritation can cause considerable distress and disrupt work schedules.
To be used effectively, respirators must be individually selected and fitted, conscientiously and properly worn, regularly maintained, and replaced as necessary. In many workplaces, these conditions are difficult, if not impossible, to satisfy.
In some circumstances (e.g. certain maintenance and repair operations, emergencies, or during periods when engineering and work practice controls are being installed and implemented), it is recognized that respirators may be essential to guarantee worker health and safety.
In other circumstances where engineering and work practice controls alone cannot reduce exposure levels to the TWAs or ELs, respirators may also be used for supplemental protection.
However, it must be kept in mind that the burden of proof of infeasibility rests with the employer in those circumstances where respiratory protection is used in lieu of engineering and work practice controls.

LOCAL EXHAUST: Face velocity > 20 m/min.

FLAMMABILITY
This product does **NOT** meet the parameters for flammability
Avoid direct sources of heat, naked lights, sparks, all ignition sources and oxidising materials.

Refer to AS 1940 - Storage and handling of flammable and combustible liquids and AS 2865 - Safe working in a confined space, for more specific information on these subjects.

PERSONAL PROTECTION

<u>WORKPLACE CONTROLS ARE BETTER THAN PERSONAL PROTECTIVE EQUIPMENT.</u>

However, for some jobs personal protective equipment may be appropriate.

In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with this product.

Use adequate general or local exhaust ventilation to meet TLV requirements.
All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.
Avoid skin and eye contact and inhalation of vapour.
Wear overalls, chemical goggles and impervious gloves when handling in bulk or for extended periods of time.
Contact lenses should NOT be worn in areas where eye contact with this product can occur.
Eye wash fountains (capable of maintaining an appropriate water pressure for an appropriate length of time to

remove the product from the eyes) and safety showers should be available for emergency use.
Observe good personal hygiene.
Keep away from foodstuffs, drinks and tobacco.
Wash contaminated clothing and other protective equipment before storing or re-using.
Keep working clothes separate.
Take off immediately all contaminated clothing.
ALWAYS wash hands carefully before breaks, eating, drinking, smoking, using the toilet and at end of work.
Do not eat, smoke, or drink where this product is handled, processed, or stored, since the chemical can be swallowed.
Even a little vapour inhaled through a burning cigarette, cigar, or pipe will be converted into more highly toxic substances.
Personal protective equipment in should not be worn in lunch areas to prevent migration of this product to an area where other employees may be unknowingly exposed.
The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult your Occupational Health and Safety Adviser.

For detailed advice on Personal Protective Equipment, refer to the following Australian Standards :-

HB 9 (Handbook 9)	Manual of industrial personal protection.
AS 1377	Eye protectors for industrial applications.
AS 1715	Selection, use and maintenance of respiratory protective devices.
AS 1716	Respiratory protective devices.

When exposure is likely, personal protective equipment in combination appropriate to the degree and nature of exposure, should be selected from the following lists :-

EYES

Eyes should be protected by chemical splash goggles, safety glasses fitted with side shields or full face shield **when handling in bulk or for extended periods of time** unless full facepiece respiratory protection is worn**.**
Contact lenses should **NOT** be worn; soft lenses may absorb irritants and all lenses concentrate irritants.
If vapour causes eye irritation or if an inhalation risk exists a full-face, organic vapour respirator (meeting the requirements of AS1715 & AS1716) should be used.
Eye wash fountains should be available for emergency use.

SKIN

Skin contact **should** be avoided by wearing chemically resistant apron (PVC apron and sleeves or full PVC covering), or other work clothing, safety boots (PVC or rubber boots) and chemical protective gloves (PVC, Viton or polyurethane) if needed to avoid **repeated** or **prolonged** skin contact.
Latex gloves may be appropriate for operations that involve light handling and only occasional contact.
Safety equipment suppliers/manufacturers can provide recommendations on the most protective glove/clothing for your operation.
However, due to variations in glove construction and local conditions, a final assessment should be made by the user.
All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.
Do **NOT** use solvents to clean the skin but use skin cleansing cream.
Ensure that there is ready access to an emergency shower.
If contamination occurs, immediately remove all contaminated clothing, wash or shower to remove the chemical and change into clean clothing.
Clothing wet with product should be soaked with water before removal to prevent the possibility of ignition by static electricity discharges.
At the end of the workshift, wash any areas of the body that may have contacted this product, whether or not known skin contact has occurred.
Launder contaminated clothing and other protective equipment before storing or re-using, and discard internally contaminated gloves and footwear.
Contaminated work clothes should be laundered by individuals who have been informed of the hazards of exposure to this product.

RESPIRATORY

IMPROPER USE OF RESPIRATORS IS DANGEROUS.

Use general or local exhaust ventilation to meet TLV requirements.
Respiratory protection required if airborne concentration exceeds TLV.
Respiratory protection required in insufficiently ventilated working areas and during spraying.
An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.
Correct respirator fit is essential to obtain adequate protection.
At concentrations up to 100 ppm, a chemical cartridge respirator with hydrocarbon/organic vapour cartridge is recommended.
Above this level, a self-contained breathing apparatus (meeting the requirements of AS1715 and AS1716) with a full face piece operated in continuous flow or other positive pressure mode is recommended.
Cartridge respirators are considered inadequate because the odour threshold does not allow workers to adequately detect breakthrough at concentrations as low as the proposed regulatory alternatives.
If vapour causes eye irritation or if an inhalation risk for higher exposures exists, an approved air supplied breathing apparatus (meeting the requirements of AS1715 and AS1716) operated in pressure demand or other positive pressure mode should be used.
If while wearing a filter, cartridge or canister respirator, you can smell, taste, or otherwise detect this product, or in the case of a full facepiece respirator you experience eye irritation, leave the area immediately.
Check to make sure the respirator to face seal is still good. If it is, replace the filter, cartridge, or canister.
If the seal is no longer good, you may need a new respirator.
Be sure to consider all potential exposures in your workplace.
You may need a combination of filters, prefilters, cartridges, or canisters to protect against different forms of a chemical (such as vapour and mist) or against a mixture of chemicals.

Where the concentration of vapour or mist is unknown or expected to approach or exceed the Worksafe Exposure Standards limit, the following additional equipment is recommended : -

(1) Short elevated exposures, e.g. spillage - goggles and correct respiratory equipment should be worn.

N.B. if the vapour/mist concentration exceeds the exposure limit by more than 10 times, air supplied apparatus should be used.

(2) For prolonged elevated exposures - Full face air supplied or self contained breathing apparatus should be worn.

4. SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT

UN No	: Not Applicable		
SUBSIDIARY RISK	: NOT ASSIGNED	AS 1940 Class	: PG II
PACKAGING GROUP	: II	HAZCHEM	: Not Applicable
POISONS	: S5	EPG	: Not Applicable
FLAMMABILITY CLASS	: Not Applicable		

(Australian Code for the Transport of Dangerous Goods by Road and Rail)

STORAGE TEMPERATURE (℃) : Ambient
TRANSPORT TEMPERATURE (℃) : Ambient
STORAGE / TRANSPORTATION PRESSURE (kPa) : Atmospheric
ELECTROSTATIC ACCUMULATION HAZARD ? : No, but use proper grounding procedure.
USUAL SHIPPING CONTAINERS : Open head drums, pails and cans.
MATERIALS AND COATINGS SUITABLE : Carbon Steel / Stainless Steel/ Polyethylene

This product should **NOT** be loaded in the same vehicle with :-

- Class 1 Explosives
- Class 2.1 Flammable gases (when both in bulk)
- Class 2.3 Poisonous gases
- Class 4.2 Spontaneously combustible substances

- Class 5.1 Oxidizing agents
- Class 5.2 Organic peroxides
- Class 7 Radioactive substances
- Halogens (chlorinated compounds & etc.)
- Foodstuffs and foodstuff empties.

Refer to Australian Code for the Transport of Dangerous Goods By Road and Rail (5th EDITION) for transport regulations and state Dangerous Goods regulations for storage requirements.

This material is a Scheduled Poison (S6) and must be stored, maintained and used in accordance with the relevant regulations.

Observe manufacturer’s storing and handling recommendations.
Prior to working with this product you should be trained on its proper handling and storage.
Store in original containers in a bunded, approved area out of direct sunlight.
Many plastics are unsuitable as storage and handling materials
Do NOT store in pits, depressions, basements or areas where vapours may be trapped.
No smoking, naked lights, heat, sparks, flame or ignition sources. Avoid exposure to temperatures above 50 °C.
Explosion protection not required, but use proper grounding procedures.
Protect containers against physical damage. Keep container dry and tightly closed when not in use.
Handle containers with care. Open slowly in order to control possible pressure release.
Check all containers are clearly labelled and check regularly for leaks.
Materials are stable on storage, but should be stored in a cool, dry, well ventilated place away from sources of ignition, oxidizing agents, mineral acids and alkalis since violent reactions may occur.
Ensure adequate ventilation or exhaust ventilation in the working area.
Exhaust ventilation necessary if product is sprayed.
Irritating to eyes, skin and mucous membranes. Avoid contact with skin and eyes.
Use non-sparking tools and equipment especially when opening and closing containers of this product
Intense smelling. Keep away from, food, drink, animal feeding stuffs clothing and odour sensitive materials.
Sources of ignition, such as smoking and open flames, are prohibited where this product is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

PROCESS HAZARD
Sudden release of hot organic chemical vapours or mists from process equipment operating at elevated temperatures and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources.
Published “autoignition” or “ignition” temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.
Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.
Further information is available in a technical bulletin entitled “Ignition Hazards of Organic Chemical Vapours”.

SPILLS AND DISPOSAL
FOR LARGE SPILLS AND FIRES immediately call your fire department.
There should a written emergency plan developed for each workplace or work operation.
Stop liquid at the source if safe to do so.
Clean up spills immediately. Do not empty into drains.
Shut off all possible sources of ignition ensure adequate ventilation / exhaust ventilation. Ventilate confined spaces
No smoking, naked lights or ignition sources.
May be violently or explosively reactive.
Use only spark-free and/or explosion proof equipment.
Keep unauthorized persons away at a safe distance and move upwind until clean up is complete. Consider evacuation.
Keep solvents out of a confined space, such as a sewer, because of the possibility of an explosion, unless the sewer is designed to prevent the build up of explosive concentrations.
Avoid breathing vapours and contact with skin and eyes. Control personal contact by using protective equipment.
If a leak or spill has not ignited, use water spray or fog to disperse the vapours and to protect men attempting to stop leak.

Water spray may be used to flush spills away from exposures.
Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas.

MINOR SPILLS
Small spills may be absorbed onto sand, soil, vermiculite or other non-combustible other absorbent material.
Collect residues and place in sealed, labelled, flammable waste container for later disposal.

MAJOR SPILLS
Consider evacuation.
Alert Fire Brigade and tell them location and nature of hazard.
Warn occupants of down wind areas of possible fire hazard.
Avoid breathing vapours and contact with skin and eyes.
Wear breathing apparatus, protective gloves and full protective clothing.
Dyke the area by any means available to prevent spreading and to prevent it entering sewers, drains or natural waterways.
Water spray may be used to flush spills away from exposures.
Water spray or fog may be used to disperse/absorb vapour.
Take measures to minimize the effect on ground water.
Advise authorities product has entered or may enter sewers, watercourses, low areas, or has contaminated soil or vegetation.
Use only spark-free and/or explosion proof equipment.
Pump the liquid (explosion proof or hand pump) to a salvage tank for recycling or later disposal.
Dilute contained spill with water.
Absorb remaining material with suitable absorbent (sand, soil, fire retardant treated sawdust, vermiculite, diatomaceous earth & etc.).
Collect solid residues and seal in labelled, flammable waste containers for later disposal.
Ventilate area well to evaporate remaining liquid and to dispel vapour.
Clean area with detergent and water - do not allow product to enter drains, sewers or water courses - inform the local authorities or emergency services if this occurs.
Dispose of at an appropriate licensed waste disposal site or facility in accordance with current applicable laws and regulations and product characteristics at time of disposal.

DISPOSAL
This product is NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers.
Consult an expert on disposal of any recovered material and ensure conformity to local disposal regulations.
It may be necessary to contain and dispose of this product as a HAZARDOUS WASTE.
Refer to your state Environmental Program for specific recommendations.
Advise of chemical nature.
Recycle product where possible. Recycle containers where possible, or dispose of in an authorised landfill.
Do NOT pressurise, cut, heat, or weld containers. Empty product containers may contain product residue.
Do NOT reuse empty containers without commercial cleaning or reconditioning.

FIRE AND EXPLOSION HAZARD
This material does **NOT** meet the parameters for flammability.
Dry paint will not burn but may evolve toxic & corrosive materials such as hydrogen bromide.
Do not store or mix with strong oxidants.
Heating may cause expansion or decomposition leading to violent rupture of containers.
In the case of incomplete combustion may form toxic materials such as hydrogen bromide, carbon monoxide (CO), carbon dioxide (CO_2), various hydrocarbons, fumes and smoke.
If safe to do so, remove containers from the path of the fire and keep cool with water spray.
Minimize breathing gases, vapour, fumes or decomposition products.
Fire-fighters should wear self-contained breathing apparatus with a full face piece and operated in positive pressure mode.

FIRE EXTINGUISHING PROCEDURES
If employees are expected to fight fires, they must be trained and equipped as per the appropriate regulations.
Shut off any leak if safe to do so and remove sources of re-ignition.
If safe to do so, remove containers from the path of the fire and keep cool with water spray.

Use water spray to cool fire-exposed surfaces and to protect personnel.
If a leak or spill has not ignited, use water spray to disperse the vapours and to protect men attempting to stop leak.
Water spray may be used to flush spills away from exposures.
Keep storage tanks, pipelines, fire exposed surfaces etc. cool with water spray.
Fire-fighters to wear self-contained breathing apparatus with a full face piece and operated in positive pressure mode if risk of exposure to vapour or products of combustion.
Either allow fire to burn under controlled conditions or extinguish with alcohol type foam, carbon dioxide (CO_2), or dry chemical.
Try to cover liquid spills with foam.
Prevent run off from fire control or dilution from entering waterways, sewers or drinking water supply.

FIRE EXTINGUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.
For small fires use water fog in large quantities, foam, dry agent (carbon dioxide, dry chemical powder).
For large fires use foam or water fog (or if unavailable fine water spray).
Water may be ineffective but should be used to cool fire exposed structures.
Material miscible with water.
Fire-men have to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

5. OTHER INFORMATION

TOXICITY
Evidence from animal tests is available to indicate that repeated or prolonged exposure to hydrocarbon solvents could result in liver, kidney and central nervous disorders as well as anaemia and leucopenia (lowered white cell count).
Prolonged, repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.
No LD_{50} data available for this specific product, however for some of the components: -

ETHYLENE GLYCOL MONOALKYL ETHER

Eye (rabbit)	: Moderate Irritant
Skin (rabbit)	: Mild irritant. If allowed to remain, may cause smarting and reddening of the skin.
Other	: Harmful if swallowed or by inhalation

Studies in mice indicate that repeated exposure to this material can cause damage to blood cells and male reproductive organs.
In tests with laboratory animals, exposure to this chemical has caused embryonic death and foetal malformations.
Pathological examination revealed lung oedema, slight liver damage and marked kidney injury.
Prior to death animals exhibited difficulty in breathing, sleepiness, weakness and loss of muscular co-ordination.
Little evidence is available on acute toxicity in humans.
Most of the available evidence is limited to case studies of accidental poisonings where glycol ethers have been ingested.
Evidence also indicates that both inhalation and dermal exposures are significant routes of exposure for glycol ethers and the induction of adverse effects.
Although not as extensive, in major part due to methodological limitations, the human data are nevertheless highly consistent with and supportive of the strong body of data in experimental animals showing adverse haematological, reproductive and developmental effects.
Exposure to glycol ethers in liquid form or high air concentrations may cause irritation of the eyes, nose and throat.
Ingestion or large does may be fatal.
Acute effects from overexposure also include drowsiness, weakness and shaking.

REACTIVITY / COMPATIBILITY

Hazardous Polymerisation	Will not occur.
Hazardous reactions	None known
Stability (Thermal, Light, etc.)	Stable
Conditions to Avoid	Heat, sparks, flame and build up of static electricity.

Incompatibility (materials to avoid for purpose of transport, handling & storage only)	Avoid contact with strong alkalis, strong bases, mineral acids, halogens, strong oxidizers.
Hazardous decomposition products	No hazardous decomposition products when stored and handled correctly. Carbon monoxide, carbon dioxide, fumes hydrogen bromide and smoke in the case of incomplete combustion. Thermal decomposition produces acrid smoke and/or irritating toxic fumes.

HAZARDOUS COMPONENTS OF MIXTURES

This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372 :
Antimony Pentoxide (CAS # 1314-60-9) - approximately 1% by Weight

SPECIAL PROPERTIES / EFFECTS

Over-exposure, especially during spraying operations without the necessary precautions entails the risk of concentration-dependent irritating effects on eyes, nose, throat, and respiratory tract.
Delayed appearance of the complaints and development of hyper-sensitivity (difficult breathing, coughing, asthma) are possible.
Hypersensitive persons may suffer from these effects even at low concentrations.

ECOLOGICAL INFORMATION

Do not allow to escape into waters, waste water or soil.
It may enter the environment from industrial or municipal waste treatment plant discharges or spills.

ACUTE (SHORT-TERM) ECOLOGICAL EFFECTS

Acute toxic effects may include the death of animals, birds, or fish, and death or low growth rate in plants.
Acute effects are seen two to four days after animals or plants come in contact with a toxic chemical substance.
This product is expected to have slight acute toxicity to aquatic life.
No data are available on the short-term effects of this product on plants, birds, or land animals.

CHRONIC (LONG-TERM) ECOLOGICAL EFFECTS

Chronic toxic effects may include shortened lifespan, reproductive problems, lower fertility, and changes in appearance or behaviour.
Chronic effects can be seen long after first exposure(s) to a toxic chemical.
This product is expected to have a slight chronic toxicity to aquatic life.
No data are available on the long-term effects of this product on plants, birds, or land animals.

BIOACCUMULATION IN AQUATIC ORGANISMS

Some substances increase in concentration, or bioaccumulate, in living organisms as they breathe contaminated air, drink contaminated water, or eat contaminated food.
These chemicals can become concentrated in the tissues and internal organs of animals and humans.
The concentration of this product found in fish tissues is expected to be slightly higher than the water from which the fish was taken.

CONTACT POINT

VALIANT ENVIRONMENTAL COMPOUNDS PTY. LTD.
P.O. Box 648 PADSTOW, N.S.W. 2211
PHONE (02) 9792-5799, FAX (02) 9792 6744

Safety Data Sheets are current for a maximum of five years but may be updated more frequently.
Please ensure that you have a current copy.
The information given in this bulletin and by the company's technical staff is provided as a general guide only to facilitate the adoption of appropriate measures in relation to handling, storage and disposal of the product.
Although Valiant Environmental Compounds Pty. Ltd has taken all reasonable care to ensure that the information is accurate, it accepts no responsibility for any loss or damage however caused that results therefrom and does not warrant such accuracy whether or not the information originated with Valiant Environmental Compounds Pty. Ltd.

MSDS – RED OXIDE PRIMER

Valiant Environmental Compounds Pty. Ltd. urges each recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.
To promote safe handling, each customer or recipient should notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety.
Users of the product are requested to contact Valiant Environmental Compounds Pty. Ltd technical section for detailed information regarding the qualities and characteristics of the product before it is used.
We reserve the right to revise Material Safety Data Sheets periodically as new information becomes available.