

# ENHANCE-PLUS

**Hazard Alert Code:  
MODERATE**Chemwatch Material Safety Data Sheet (REVIEW)  
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Chemwatch 6594-40  
CD 2007/2

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ENHANCE-PLUS**SYNONYMS**

"stain prevention", "masonry sealant"

**PROPER SHIPPING NAME**

FLAMMABLE LIQUID, N.O.S. (contains titanium(IV) butoxide and octamethylcyclotetrasiloxane)

**PRODUCT USE**

Water and stain protection for masonry substrate.

**SUPPLIER**

Company: Dry-Treat Pty Ltd

Address:

220 Pacific Highway

Crows Nest

NSW, 2065

AUS

Telephone: +61 2 9954 3211

Telephone: 1800 675 119

Emergency Tel: +61 2 9954 3211

Emergency Tel: Outside USA +1 (813) 248  
0585

Fax: +61 2 9954 3162

## Section 2 - HAZARDS IDENTIFICATION

**STATEMENT OF HAZARDOUS NATURE****DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE. According to the Criteria of NOHSC, and the ADG Code.****POISONS SCHEDULE**

None

RISK	SAFETY
Flammable.	Keep away from sources of ignition. No smoking.
Cumulative effects may result following exposure*.	Keep container in a well ventilated place.
May possibly affect fertility*.	Avoid exposure - obtain special instructions before use.
* (limited evidence).	Do not empty into drains.
	This material and its container must be disposed of as hazardous waste.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
silicone		>60
titanium(IV) butoxide	5593-70-4	0.1-1
octamethylcyclotetrasiloxane	556-67-2	0.1-1
other ingredients not contributing to the classification		10-30

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

### EYE

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

### NOTES TO PHYSICIAN

Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

### FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

### FIRE/EXPLOSION HAZARD

- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include: carbon dioxide (CO<sub>2</sub>), silicon dioxide (SiO<sub>2</sub>), other pyrolysis products typical of burning organic material, carbon monoxide (CO).

#### **FIRE INCOMPATIBILITY**

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

#### **HAZCHEM**

3[Y]

#### **Personal Protective Equipment**

Gloves, boots (chemical resistant).

Breathing apparatus - high vapour/dust levels only.

## **Section 6 - ACCIDENTAL RELEASE MEASURES**

### **EMERGENCY PROCEDURES**

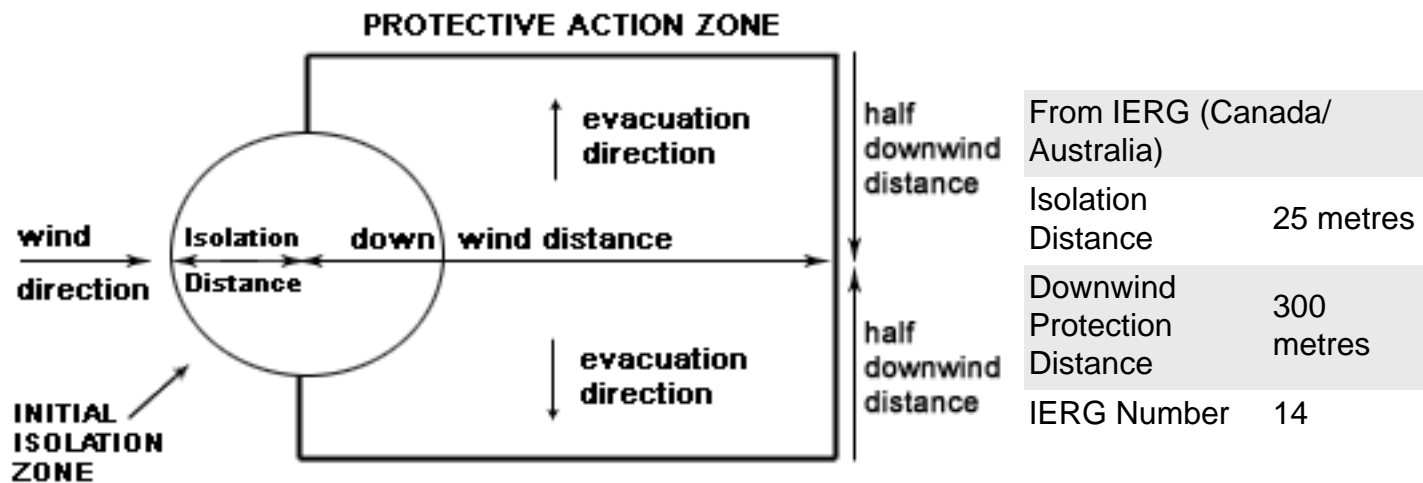
#### **MINOR SPILLS**

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- Collect residues in a flammable waste container.

#### **MAJOR SPILLS**

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

### **PROTECTIVE ACTIONS FOR SPILL**



## FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills". LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.

5 Guide 128 is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

## SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



*X: Must not be stored together*

*O: May be stored together with specific preventions*

*+: May be stored together*

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

## Section 7 - HANDLING AND STORAGE

## PROCEDURE FOR HANDLING

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid generation of static electricity.
- DO NOT use plastic buckets.
- Earth all lines and equipment.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

## SUITABLE CONTAINER

- Packing as supplied by manufacturer.
  - Plastic containers may only be used if approved for flammable liquid.
  - Check that containers are clearly labelled and free from leaks.
  - For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type.  
(ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
  - For materials with a viscosity of at least 2680 cSt. (23 deg. C)
  - For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
  - Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)
- (i) : Removable head packaging;  
(ii) : Cans with friction closures and  
(iii) : low pressure tubes and cartridges may be used.
- Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages
  - In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

## STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

## STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.

- Keep containers securely sealed.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- titanium(IV) butoxide: CAS:5593-70-4
- octamethylcyclotetrasiloxane: CAS:556-67-2

### MATERIAL DATA

Not available. Refer to individual constituents.

### INGREDIENT DATA

OCTAMETHYLCYCLOTETRASILOXANE:

TITANIUM(IV) BUTOXIDE:

No exposure limits set by NOHSC or ACGIH.

OCTAMETHYLCYCLOTETRASILOXANE:

CEL TWA: 5 ppm, 60 mg/m<sup>3</sup> [GE Silicones]

CEL TWA: 10 ppm, 120 mg/m<sup>3</sup> [Dow Corning]

### PERSONAL PROTECTION



### EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]

### HANDS/FEET

Suitability and durability of glove type is dependent on usage. Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity,

are important in the selection of gloves.

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

#### **OTHER**

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

#### **ENGINEERING CONTROLS**

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

### **Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

#### **APPEARANCE**

Flammable liquid with a characteristic odour; partly mixes with water.

#### **PHYSICAL PROPERTIES**

Molecular Weight: Not Applicable	Boiling Range (°C): >65
Melting Range (°C): Not Available	Specific Gravity (water=1): 0.845
Solubility in water (g/L): Partly Miscible	pH (as supplied): Not Applicable
pH (1% solution): Not Available	Vapour Pressure (kPa): Not Available
Volatile Component (%vol): Not Available	Evaporation Rate: Not Available
Relative Vapour Density (air=1): Not Available	Flash Point (°C): 34 (Pensky-Martens)
Lower Explosive Limit (%): Not Available	Upper Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available	Decomposition Temp (°C): Not Available
State: LIQUID	Viscosity: Not Available

### **Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION**

#### **CONDITIONS CONTRIBUTING TO INSTABILITY**

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

### **Section 11 - TOXICOLOGICAL INFORMATION**

#### **POTENTIAL HEALTH EFFECTS**

## **ACUTE HEALTH EFFECTS SWALLOWED**

The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

### **EYE**

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

### **SKIN**

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

### **INHALED**

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

## **CHRONIC HEALTH EFFECTS**

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

## **TOXICITY AND IRRITATION**

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

## **Section 12 - ECOLOGICAL INFORMATION**

Marine Pollutant:Not Determined

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

TITANIUM(IV) BUTOXIDE:

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

### Section 13 - DISPOSAL CONSIDERATIONS

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

### Section 14 - TRANSPORTATION INFORMATION



Labels Required: FLAMMABLE LIQUID

HAZCHEM: 3[Y]

#### UNDG:

Dangerous Goods Class:	3	Subrisk:	None
UN Number:	1993	Packing Group:	III

Shipping Name: FLAMMABLE LIQUID, N.O.S.

(contains titanium(IV) butoxide and octamethylcyclotetrasiloxane)

#### Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	None
UN/ID Number:	1993	Packing Group:	III
ERG Code:	3H		

Shipping name: FLAMMABLE LIQUID, N.O.S.

(contains titanium(IV) butoxide and octamethylcyclotetrasiloxane)

#### Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	None
UN Number:	1993	Packing Group:	III
EMS Number:	F-E,S-E	Marine Pollutant:	Not Determined

Shipping name: FLAMMABLE LIQUID, N.O.S.

(contains titanium(IV) butoxide and octamethylcyclotetrasiloxane)

## Section 15 - REGULATORY INFORMATION

### POISONS SCHEDULE

None

### REGULATIONS

titanium(IV) butoxide (CAS: 5593- 70- 4) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)

OECD Representative List of High Production Volume (HPV) Chemicals

octamethylcyclotetrasiloxane (CAS: 556- 67- 2) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

## Section 16 - OTHER INFORMATION

### EXPOSURE STANDARD FOR MIXTURES

"Worst Case" computer-aided prediction of vapour components/concentrations: Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>): 60 mg/m<sup>3</sup> If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed. Component Breathing Zone ppm Breathing Zone mg/m<sup>3</sup> Mixture Conc: (%).

Component	Breathing zone (ppm)	Breathing Zone (mg/m <sup>3</sup> )	Mixture Conc (%)
octamethylcyclotetrasiloxane	5.00	60.0000	1.0

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone. If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed. At the "Composite Exposure Standard for Mixture" (TWA) (mg/m<sup>3</sup>): 1 mg/m<sup>3</sup>

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