



# KIM-AE K-300, KIM-HS K-301, KIM-ES K-302 KRYSTOL INTERNAL MEMBRANE

## Material Safety Data Sheet

May 2011

*At the Lab. In the Field.  
By Your Side.*

### 1. Product And Company Identification

#### Product Identifier:

- KIM Krystol Internal Membrane Concrete Waterproofing Admixture
- KIM-AE Krystol Internal Membrane-AE Concrete Waterproofing Admixture
- KIM-HS Krystol Internal Membrane-HS Concrete Waterproofing Admixture
- KIM-ES Krystol Internal Membrane-ES Concrete Waterproofing Admixture

#### Other Means of Identification:

- KIM
- KIM-AE
- KIM-ES
- KIM-HS

**Product Code:** K-300, K-301, K-302

**Product Use:** A chemical admixture in dry powder form that creates waterproof concrete

**WHMIS Classification:** D2A, toxic; E, Corrosive

**CAS Number:** Not Established

**Manufacturer's Name:** Kryton International Inc.

**Address:** 1645 E. Kent Avenue, Vancouver, BC, Canada, V5P 2S8

**Telephone Number:** 1-604-324-8280

**FAX Number:** 1-604-324-8899

**Web Site:** www.kryton.com

**Emergency Contacts & Phone Number:** CANUTEC 1-613-996-6666

**Date MSDS Updated:** May 1, 2011

**MSDS Updated by:** Research and Development Department, Kryton International Inc.

**Date MSDS Prepared:** May 29, 1995

**MSDS Prepared by:** Dept. Group #7, Conctect Testing

### 2. Composition/Information on Hazardous Ingredients

Ingredient name CAS # EINECS	Content (%)	ACGIH TLV-TWA (mg/m <sup>3</sup> )	OSHA PEL-8h TWA (mg dust/m <sup>3</sup> ) T: total, R: Respirable	LD <sub>50</sub> LC <sub>50</sub>	European Hazard Classification
Portland Cement 65997-15-1 266-043-4	15-40	10	15 (T) 5 (R)	Not Available Not Available	C, T, Xi
Silica, Quartz 14808-60-7 238-878-4	15-40 (Respirable: <0.003)	0.025	30/(%SiO <sub>2</sub> +2) (T) 10/(%SiO <sub>2</sub> +2) (R)	500mg/kg (oral, rat) Not Available	C, T, Xi

### 3. Hazards Identification

**Route of Entry:** Skin Contact, Eye Contact, Inhalation and Ingestion

**Emergency Overview:**

- Grey, odorless and fine powder. It is not combustible or explosive. Short-term exposure to the dry powder presents little or no hazard. May irritate eyes, skin and respiratory tract. Exposure of sufficient duration to wet product or to dry product on moist areas of body, can cause caustic burn.
- This product may contain crystalline quartz from sand (silicon dioxide). Crystalline quartz is classified as a carcinogen by IARC and NTP; it is a suspected human carcinogen by ACGIH. The major route of entry is inhalation. Although this product contains less than 0.003% of respirable silica dust, well ventilate area and respirator is recommended.

**WHMIS Symbol:** D2A, toxic; E, Corrosive



**Globally Harmonized System (GHS):**

Classification: Acute Toxicity Category 4; Skin Corrosion/Irritation Category 1;  
Respiratory Sensitizer Category 1; Skin Sensitizer Category 1B;  
Carcinogenicity Category 1.

Symbol:



Signal Word: Danger

Hazard Statement: Harmful if swallowed  
Harmful if contact with skin  
Harmful if inhaled.  
Cause severe skin burns and eye damage (when product is wet).  
May cause allergy or asthmatic symptoms or breathing difficulties if inhaled  
May cause an allergic skin  
May cause cancer (inhalation of respirable silica dust)

### 4. First Aid Measures

When contacting a physician, take this MSDS with you.

**Eyes:**

- Do not rub eye(s) as additional cornea damage is possible by mechanical stress.
- Remove any contact lenses and open the eyelid(s) widely to flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 15 minutes to remove all particles. If possible, use isotonic water (0.9% NaCl).
- Contact a specialist of occupational medicine or an eye specialist.

**Skin:**

- For dry product, remove and rinse abundantly with water.
- For wet product, wash skin with water.
- Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.
- Seek medical treatment in all cases of irritation or burns.

#### 4. First Aid Measures – cont'd

**Ingestion:**

- Do not induce vomiting.
- If person is conscious, wash out mouth with water and give plenty of water to drink.
- Get immediate medical attention or contact anti poison centre.

**Inhalation:**

- Remove to fresh air.
- If breathing has stopped, institute artificial respiration.
- Get medical attention if discomfort remains.

**Effects of Acute and Chronic Exposure to Product:** See Part 11.

#### 5. Firefighting Measures

**Flammability:** Noncombustible

**Means of Extinction:** Water, Fog, Alcohol-Resistant Foam, Dry Chemical or Carbon Dioxide (CO<sub>2</sub>)

**Flashpoint and Method:** Non-combustible, >200F

**Autoignition Temperature:** Not Applicable

**Fire and Explosion Data:** Not Applicable

**Hazardous Combustion Products:** Not Applicable

**Fire Fighting Instructions:** Firefighters should wear self-contained breathing apparatus and full protective gear. Product reacts with water and creates heat.

#### 6. Accidental Release Measures

**Personal precautions:** Wear protective equipment as described under section 8 and follow the advice for safe handling and use given under section 7. Emergency procedures are not required.

**Environment precautions:** Do not wash product down sewage and drainage systems or into bodies of water.

**Methods for cleaning up:**

- Use dry cleanup methods that do not cause airborne dispersion, e.g.: Vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique).
- Wipe-up the dust by mopping, wet brushing or water spraying and remove wet product.
- When vacuum cleaning or wet cleaning are not possible and only dry cleaning with brushes can be done, ensure that the workers wear appropriate personal protective equipment and prevent dust from spreading.
- Place spilled materials into a container. Allow material to dry and solidify before disposal.

#### 7. Handling and Storage

**Handling Procedures and Equipment:**

- Avoid contact with skin and eyes by wearing protective equipment: safety goggles, protective clothing, nitrile gloves and waterproof shoes.
- Use in well-ventilated area or wear NIOSH-approved respirator with particulate cartridges or filter.
- Do not handle or store near food and beverages or smoking materials.
- Carrying bags/buckets may cause sprains and strains to the back, arms, shoulders and legs.
- Handle with care and use appropriate control measures.
- Wash hands thoroughly with soap and water after handling.
- Keep container closed when not in use.

## 7. Handling and Storage – cont'd

### Storage Requirements:

- Bulk product should be stored in containers that are waterproof, dry (internal condensation minimized), clean and protected from contamination.
- Product can build-up or adhere to the walls of a confined space. It can release, collapse or fall unexpectedly.
- Keep containers tightly closed.
- Protect from moisture.
- Store in a cool, dry place.
- Keep out of reach of children.

## 8. Exposure Control/Personal Protection

### Exposure Limits:

- Portland Cement, CAS# 65997-15-1  
WELs EH40/2005 (UK), 8 hr TWA, 2007 : 10 mg/m<sup>3</sup> inhalable dust, 4 mg/m<sup>3</sup> respirable dust.  
ACGIH TLV-TWA 2000: 10 mg total dust/m<sup>3</sup>  
OSHA PEL, 8-hr TWA: 15 mg total dust/m<sup>3</sup>, 5 mg respirable dust/m<sup>3</sup>
- Silica, Quartz, CAS#14808-60-7  
WELs EH40/2005 (UK), 8 hr TWA, 2007: 0.1 mg/m<sup>3</sup> respirable dust  
ACGIH TLV-TWA 2008: 0.025 mg respirable dust/m<sup>3</sup>  
OSHA PEL, 8-hr TWA: 10 mg respirable dust/m<sup>3</sup> (percent silica + 2)  
NIOSH REL, 8-hr TWA: 0.05 mg respirable dust/m<sup>3</sup>

**Specific Engineering Controls:** Use general or local exhaust ventilation to keep dust levels below exposure limits. If exceed the limits, use a properly fitted and NIOSH approved respirator.

### Personal Protective Equipment:

- Gloves: Chemical resistant rubber or nitrile gloves
- Respirator: NIOSH approved with particulates filter or cartridge
- Eye: Safety goggles or safety glasses with side shields
- Footwear: Waterproof
- Clothing: Long sleeve and long pants to avoid skin contact
- Other: Wash thoroughly with soap and water after handling

## 9. Physical and Chemical Properties

**Physical State:** Powder (Solid)

**Odour and Appearance:** Odourless, Grey, mixture of finely divided and granules particulate.

**Odour Threshold:** Not Applicable

**Specific Gravity:** 2.6 – 3.0

**Vapor Density:** Not Applicable

**Vapor Pressure:** Not Applicable

**Evaporation Rate:** Not Applicable

**Boiling Point:** Not Applicable

**Melting Point:** Not Applicable

**pH (in water):** 12-14 (Alkaline)

**Coefficient of Water/Oil Distribution:** Not Applicable

**Solubility in Water:** Slightly soluble (10-15%)

**Relative bulk density:** 1.3 – 1.6

**Viscosity:** Not Applicable

**VOC content (EU): VOC (w/w):** 0%

## 9. Physical and Chemical Properties – cont'd

**Flammability:** Noncombustible

**Flashpoint:** Not Applicable

**Upper/Lower Flammability or Explosive Limits:** Not Applicable

**Auto-ignition Temperature:** Not Applicable

**Decomposition Temperature:** Not Applicable

## 10. Stability and Reactivity

**Chemical Stability:** Stable

**Conditions to Avoid (Stability):** Unintended contact with water or moisture, which produces caustic solutions, pH 12-14.

**Incompatibility with Other Substances:** React with acids, ammonium salts, fluorine, lithium and aluminum, which may liberate Carbon Monoxide, Carbon Dioxide or Hydrogen.

**Hazardous Polymerization:** Cannot occur

**Possibility of Hazardous Reactions:** No additional remark

**Hazardous Decomposition Products:** Will not spontaneously occur. Adding water produces caustic calcium hydroxide.

**Other Precautions:** When mix with water, the mixture is caustic with pH12-14 and it can get hot.

## 11. Toxicological Information

**Routes of Entry:** Skin Contact, Eye Contact, Inhalation and Ingestion

**Effects of Acute Exposure to Product:**

- May cause eyes, skin and respiratory irritation, inflammation or severe chemical burns if direct contacted by large amount of product.
- May cause skin thickening, cracking or fissuring if contacted to wet product or dry product with wet skin.
- May cause coughing, sneezing and shortness of breathe if exposed in excess of occupational exposure limits.

**Effects of Chronic Exposure to Product:**

- Multiple skin exposure over weeks or months leading to eczema or dermatitis. Content of sensitizing Cr(VI) is below 0.002% according to regulation.
- Exposure to silica may cause silicosis, cancer, autoimmune disease, tuberculosis and renal disease.
- Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation
- Sensitivity reactions may occur from prolonged and repeated exposure

**Irritancy of Product:** Can be irritating to eyes, skin, and respiratory tract.

**Skin Sensitization:** Can cause caustic burns and dermatitis when wet.

**Respiratory Sensitization:** Can cause chemical burn when wet. Respirable crystalline silica can cause silicosis, cancer, autoimmune disease, tuberculosis and renal disease.

**Numerical Measures of Toxicity:** Not Available

**Carcinogenicity:** A causal association between this product exposure and cancer has not been established, but Silica, Quartz (CAS# 14808-60-7), one of the ingredients is listed as carcinogen by IARC and NTP.

- Silica, Quartz (CAS# 14808-60-7)  
IARC Group 1 (Carcinogenic to humans)  
ACGIH Group A2 (Suspected human carcinogen)  
NTP Known carcinogen

**Reproductive Toxicity:** Not Available

**Teratogenicity:** Not Available

**Mutagenicity:** Not Available

**Embryotoxicity:** Not Available

**Name of Synergistic Products/ Effects:** Not Available

## 12. Ecological Information

### Ecotoxicity:

- The product is not expected to be hazardous to the environment.
- The addition of large amounts to water may, however, cause a rise in pH and may therefore be toxic to aquatic life under certain circumstances.

**Mobility:** Dry product is not volatile but might become airborne during handling operations.

**Persistence and degradability/Bio accumulative potential/Results of PBT Assessment/Other adverse effects:** Not Available

## 13. Disposal Considerations

Always dispose of in accordance with local, provincial (state), and federal regulations.

**Unused Residue or Dry Spillage:** Pick up dry material. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to local legislation.

**Slurries:** Allow to harden, avoid entry in sewage and drainage systems or into bodies of water and dispose according to 13.3.

### After Addition of Water and Hardened:

- Dispose of according to local legislation. Avoid entry into the sewage water system.
- Dispose of the hardened product as concrete waste. Due to inertisation, concrete waste is not a dangerous waste.
- EWC entries: 10 13 14 (waste concrete or concrete sludge) or 17 01 01 (concrete).

### Packaging:

- Completely empty the packaging and recycle / dispose in accordance with local legislation.
- EWC entry: 15 01 02 (plastic packaging).

## 14. Transport Information

**Special Shipping Information:** This product is not listed as a Hazardous Material under TDG, DOT, IMDG, IATA and ADR/RID. No special precautions are needed apart from those mentioned under Section 8.

**PIN:** Not Applicable

**TDG (Canada):** Not regulated

**DOT (U.S.):** Not regulated

**ADR/RID:** Not regulated

**IMDG:** Not regulated

**IATA:** Not regulated

**UN Number:** Not listed

## 15. Regulatory Information

**WHMIS Classification:** D2A, toxic; E, Corrosive

**European Hazard Symbol:** C, Corrosive; T, Toxic; Xi, Irritant

**Globally Harmonized System (GHS) Classification:**

Acute Toxicity Category 4; Skin Corrosion/Irritation Category 1; Respiratory Sensitizer Category 1; Skin Sensitizer Category 1B; Carcinogenicity Category 1.

**HMIS:** Health \*2; Flammability 0; Physical Hazard 1.

**OSHA:** This product is considered a hazardous chemical. It is recommended to follow "Safety and Health Program Management Guidelines" by OSHA.

**TSCA:** This product is exempted from TSCA because it is defined as a mixture.

## 15. Regulatory Information – cont'd

**SARA:** This product is considered a hazardous chemical and has a delayed health hazard under section 311 and 312 of the Emergency Planning and Community Right to Know Act (EPCRA) of 1986. This product does not contain any ingredients regulated under Section 313 of the EPCRA, 1986 or 40 CFR 372.

**U.S. State Regulations:**

- New Jersey - Workplace Hazard
- Pennsylvania - Workplace Hazard
- California - Proposition 65
- Massachusetts - Hazardous Substance

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.**

## 16. Other Information

**Abbreviations:**

ACGIH	American Conference of Governmental Industrial Hygienists
ADR/RID	Agreement on the Transport of Dangerous Goods by Road/ Regulations on the International Transport of Dangerous Goods by Rail
CAS#	Chemical Abstract Service number
CPR	Controlled Products Regulations
DOT	U.S. Department of Transportation
EINECS	European Inventory of Existing Commercial Chemical Substances
EPCRA	Emergency Planning and Community Right to Know Act
EWC	European Waste Catalogue
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC <sub>50</sub>	Lethal Concentration
LD <sub>50</sub>	Lethal Dose
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average (8 hour)
WELs	Workplace Exposure Limits
WHMIS	Workplace Hazardous Materials Information System

## 16. Other Information – cont'd

### Manufacture's notes

- The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process, is the responsibility of the user.
- It is implicit that the user is responsible for determining appropriate safety measures and for applying the legislation covering his own activities.