

KROWN THE SOLUTION (AEROSOL)

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND PREPARATION INFORMATION

Manufacturer: EMPACK SPRAYTECH INC.
98 Walker Drive, Brampton
Ontario, Canada, L6T 4H6
(905) 792 – 6571

Emergency telephone numbers: EMPACK (8 AM TO 4 PM EST)
(905) 792 – 6571
CANUTEC (24 HR)
(613) 996 – 6666

Supplier's Name and Address: Refer to Manufacturer

Product Name: Krown The Solution Penetrant

Synonyms: Not Applicable

Chemical Family: Aerosol

Molecular Formula: Not Applicable

Product Use: Lubricant, Penetrant, Rust Inhibitor

WHIMIS Classification: Class A, B5, D2B

TDG Classification: AEROSOLS, Class 2.1, UN1950.

Under the Clear Language Regulations : refer to Section 1.17 for Limited Quantity Shipping Information, if shipping under this exemption.

2. HAZARDOUS INGREDIENTS

| Hazardous Ingredients | CAS Number | Wt. % | OSHA TWA | ACGIH TWA | LC ₅₀ Inhalation |
|------------------------|---------------|----------|---------------|---------------|-----------------------------|
| Petroleum Hydrocarbons | Not available | 60 - 100 | Not available | Not available | Not available |
| Propane | 74-98-6 | 5-10 | 1000ppm | 2500ppm | Not available |
| Isobutane | 75-28-5 | 5-10 | 800ppm | Not available | 570000 rat/1hr |

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3. PHYSICAL AND CHEMICAL PROPERTIES

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| Physical State | Aerosol |
| Appearance | Blue oil mist |
| Odour | Petroleum |
| Odour Threshold | N.Ap |
| Boiling Point (°C) for concentrate | N.Av |
| Boiling Point (°C) for propellants | (- 12 °C) – (-42 °C) |
| Vapour Density (Air = 1) | >1 |
| Specific Gravity (Water = 1) | 0.8-0.86 |
| Vapour Pressure for concentrate | N.Av. |
| Evaporation Rate for concentrate | N.Av |
| Vapour Pressure for propellants | 33-109.73 psig@21.1 °C |
| PH | N.Ap |
| Solubility in Water for concentrate | Nil |

4. FIRE AND EXPLOSION HAZARD

Flammable limits for solution:

N.Av

Flammability for propellants:

Flammability limits in air (% by volume):

LFL = 108-2.1 ; UFL = 8.5-9.5

Extinguishing Media:

Carbon dioxide, dry chemicals, water spray or fog.

Fire Fighting Procedures:

Emergency responders in the immediate hazard area should wear proper protective bunker gear and NIOSH approved self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Use water spray to cool fire-exposed containers in order to prevent pressure build up, auto-ignition or explosion. Shield personnel to protect from venting, rupturing or bursting cans.

Flash Point

150 °C (Liquid component)

Flash Point for propellants :

-104 to -178

Auto-ignition Temperature (°C):

450 to 460 °C

Hazardous Combustion Products:

Carbon Oxides (CO, CO₂).

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5. REACTIVITY DATA

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| Chemical Stability: | Stable |
| Incompatible Materials: | Keep away from strong oxidizers, ignition source and heat. Explosion hazard when exposed to chlorine dioxide. Heating barium peroxide with propane causes violent exothermic reaction. Heated chlorine-propane mixtures are explosive under some condition. |
| Hazardous Decomposition: | Extremely reactive or incompatible with oxidizing agents |

6. TOXICOLOGICAL PROPERTIES

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| Route of Entry: | |
| Skin Contact: | Direct contact to the skin or mucous membranes with liquid or cold vapour may cause freeze burns and frost bite. |
| Eye Contact: | Contact with liquid or cold vapour may cause frostbite, freeze burns, and permanent eye damage. |
| Inhalation: | Vapour maybe irritating to the mucous membranes and respiratory tract. |
| Ingestion: | Ingestion is unlikely. Contact with mucous membranes with liquefied product may cause frostbite and freeze burns |
| Effects of Acute Exposure: | May increase sensitivity of the heart to adrenaline, which could result in irregular heart beats and reduced heart function. |
| Effects of Chronic Exposure: | At very high oral doses, this product caused reversible damage to the stomach, liver, and kidney (male only) of rats. These effects are not relevant to humans at occupational levels of exposure. |
| Carcinogenicity: | Petroleum derived oils may contain Polyaromatic Hydrocarbons (PAH) contaminants. Solvent refining and hydrotreating oil removes PAH's virtually eliminating the risk of cancer normally associated with PAH's and oils. |
| Reproductive Effects: | No information is available. |
| Teratogenicity: | No information is available. |
| Mutagenicity: | No information is available. |

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7. PREVENTIVE MEASURES

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| Personal protective equipment: | Wear safety glasses and use impervious gloves. |
| Specific engineering controls: | Local exhaust is recommended. |
| Leak and spill procedures: | remove or extinguish ignition or combustion sources, evacuate enclosed spaces until gas is dispersed, keep upwind. Stop leak if possible without risk. |
| Containers Disposal: | Don't puncture or incinerate containers, even when empty. Dispose in accordance with local, provincial and federal regulations. |
| Handling Procedures and Equipment: | Wash before eating, drinking, using tobacco products or rest rooms. Do not breathe vapours. Keep away from heat and flames. |
| Storage Instructions: | Keep away from heat, sparks, and open flames. Store in a cool, dry and well-ventilated place away from incompatibles. |
| Storage requirements: | Keep in a closed, labelled container in a ventilated area. |

8. FIRST AID MEASURES

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| Eyes: | In case of eye contact, immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Seek medical attention IMMEDIATELY. |
| Skin: | For skin, wash thoroughly with soap and large amounts of water. If irritation or redness develops, seek medical attention. |
| Inhalation: | If affected by inhalation of vapour or spray mist, move victims away from source of exposure and into fresh air. Seek medical attention if necessary. |
| Ingestion: | Not expected. If happened Do not induce vomiting. Immediately drink one glass of water to dilute. Contact physician. |

9. OTHER INFORMATION

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| Prepared by: | EMPACK Regulatory Department |
| Telephone: | (905) 792-6571 |
| Preparation Date: | October, 2006 |
| Last revision: | March 12, 2012 |

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Abbreviations:

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| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS | Chemical Abstract Service |
| LC | Lethal Concentration |
| LD | Lethal Dosage |
| NIOSH | National Institute for Occupational Safety and Health |
| OSHA | Occupational Safety and Health Administration (U.S.A) |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |
| WHIMIS | Workplace Hazardous Materials Information System |

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. **This MSDS is valid for three years.**

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