

SAFETY DATA SHEET – CRACK FLUSHING AGENT

SECTION 1. IDENTIFICATION

Product Identifier	Crack Flushing Agent
Other Means of Identification	Crack flush, acid flush
Recommended Use	Flushing agent to clean cracks and construction joints in concrete structures before injection of polyurethane resins.
Restrictions on Use	Professional use only
Supplier Identifier	Multiurethanes Ltd. 5245 Creekbank Rd, Mississauga, ON L4W 1N3 (Canada)
Emergency Telephone Number	1-800-663-6633 1-613-996-6666 CANUTEC (24hrs)

SECTION 2. HAZARD IDENTIFICATION

Classification This material is classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Corrosive to Metals - Category 1
Skin Corrosion/Irritation - Category 1
Eye Damage/Eye Irritation - Category 1

Label Elements

Hazard Pictogram



Signal Word

DANGER

Hazard Statements

May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary Statements

Prevention

Wear appropriate protective equipment.
Avoid breathing fume/mist/vapours.
Wash hands and exposed skin after handling.

Response

IF ON SKIN: Immediately take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Seek immediate medical attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.

IF INHALED: Remove person to fresh air and keep comfortable for

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breathing. Seek immediate medical attention.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles. Do not freeze. Store in corrosion-resistant containers.

Disposal

Dispose of material in accordance with all applicable federal, state/provincial, and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the sole responsibility of the waste generator.

Other Hazards

Contact with most metals will generate flammable hydrogen gas. Contact with water gives off heat. Burning produces obnoxious and toxic fumes. Chronic skin contact with low concentrations may cause dermatitis. May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture containing acids

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Concentration (% by weight)</u>	<u>Common Names / Synonyms</u>	<u>Other Identifiers</u>
Phosphoric acid	7664-38-2	75%	Orthophosphoric Acid Hydrogen Phosphate	Not available

Notes

Not available

SECTION 4. FIRST-AID MEASURES

Inhalation

Immediately remove person to fresh air. If breathing is difficult, oxygen should be given by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention.

Skin Contact

Wear appropriate protective equipment. Immediately remove all contaminated clothing. Flush skin with gently flowing, running water for at least 20 minutes. Do not rub the area of contact. Seek immediate medical attention. Wash contaminated clothing before reuse. Contaminated leather may require disposal.

Eye Contact

Wear appropriate protective equipment. Protect unharmed eyes. If in contact with eyes, immediately flush them with running water for at least 20 minutes. If a contact lens is present, do not delay flushing or attempt to remove the lens until flushing is done. Seek immediate medical attention.

Ingestion

Never give anything by mouth to an unconscious person. Do not induce vomiting. Have the victim rinse their mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention.

Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness, and corrosive damage. May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. This could result in pulmonary edema (fluid accumulation).

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Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.

Indication of Immediate Medical Attention and Special Treatment Needed

Immediate medical attention is required. Causes chemical burns. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use media suitable to the surrounding fire such as water for or fine spray, alcohol foams, carbon dioxide, and dry chemical. May react with water. Use water spray with caution.

Unsuitable Extinguishing Media

Use water spray with caution. Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Product

Not considered flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Hazardous combustion products include phosphorus oxides.

Special Protective Equipment and Precautions for Firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire-exposed containers. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Restrict access to the area until clean-up is completed. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment, including self-contained breathing apparatus. Refer to section 8 for additional information on acceptable personal protective equipment.

Methods and Material for Containment and Cleaning Up

Remove all sources of ignition. Ventilate the area of release. Stop the spill at the source if it is safe to do so. Dike for water control. Dilute alkali with water and neutralize with acids (e.g., acetic acid/vinegar). Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand), then place absorbent material into a container for later disposal (see section 13). Notify the appropriate authorities as required.

Notification Procedures

If a spill or release into the environment exceeds the EPA reportable quantity, immediately notify the relevant authorities following all applicable regulations.

Environmental Precautions

Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well before the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

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SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Refer to section 8 for additional information on acceptable personal protective equipment. Do not breathe fumes or mists. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. May react with water, generating heat. When diluting, always add the product to water. Never add water to the product. When mixing with water, stir small amounts in slowly. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Conditions for Safe Storage (including incompatibilities)

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles. The storage area should be identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not freeze. Store in corrosion-resistant containers. Avoid contact with water, metals (e.g., tin, aluminum, zinc, and alloys containing these metals), strong oxidizers (e.g., chlorine, peroxides, etc.), acids (e.g., sulfuric acid, nitric acid), caustics, and amines alcohols.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters – Occupational Exposure Limits

Chemical Name	Type	Exposure Limit Values	Source
Phosphoric acid	TWA	1 mg/m ³	ACGIH TLV
Phosphoric acid	STEL	3 mg/m ³	ACGIH TLV
Phosphoric acid	PEL	1 mg/m ³	OSHA PEL

Appropriate Engineering Controls

Emergency eye wash fountains and safety showers should be available near any potential exposure. Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ensure all national/regional regulations are observed.

Individual Protection Measures

Eye/Face Protection

Chemical splash goggles must be worn when handling this material. A full-face shield may also be necessary.

Skin Protection

Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear as appropriate: Neoprene, polyvinylchloride, Viton, butyl rubber, nitrile rubber, and polyethylene. Polyvinyl alcohol is an unsuitable material. Wear chemically protective gloves (waterproof), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Respiratory Protection

Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. A self-contained breathing apparatus should be used in emergencies or when exposure levels are unknown. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in the air and following OSHA (29 CFR 1910.134) or CSA Z94.4-02.

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Hygiene Measures

Do not breathe fumes or mists. Do not ingest. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking, or using toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear colourless liquid
Odour	Odorless
Odour Threshold	Not applicable
pH	<1.0 (1% solution = 2.1)
Melting Point / Freezing Point	Freezing point = -17.5°C (0.5°F)
Initial Boiling Point and Boiling Range	135°C (275°F)
Flash Point	Not applicable
Evaporation Rate (BuAe = 1)	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limits	Not explosive
Vapour Pressure	5.63
Vapour Density (air = 1)	3.5
Relative Density (water = 1)	1.573
Solubility in Water	Very soluble
Solubility (other)	Not available
Partition Coefficient, n-octanol / water (logKow)	Not applicable
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	18 cSt @ 20°C (68°F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Not normally reactive. May be corrosive to metals. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate
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	considerable heat.
Chemical Stability	Stable under recommended handling and storage conditions (refer to section 7).
Possibility of Hazardous Reactions	Hazardous polymerization does not occur.
Conditions to Avoid	Avoid heat and open flame. Keep away from incompatibles. Keep container tightly closed when not in use. Avoid contact with water.
Incompatible Materials	Water, metals (e.g., tin, aluminum, zinc, and alloys containing these metals), strong oxidizers (e.g., chlorine, peroxides, etc.), acids (e.g., sulfuric acid, nitric acid), caustics and amines from alcohols.
Hazardous Decomposition Products	None known

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological Data

<u>Chemical Name</u>	<u>LC50</u>	<u>LD50</u>
Phosphoric acid	Not available	Oral, rat: 4400 mg/kg Dermal, rabbit: >3160 mg/kg

Acute Toxicity	Not available
Respiratory and/or Skin Sensitization	It is not expected to be a skin or respiratory sensitizer.
Skin Corrosion / Irritation	Causes severe skin burns.
Serious Eye Damage / Irritation	Causes serious eye damage.
Specific Target Organ Toxicity - Single Exposure	The substance or mixture is not classified as a specific target organ toxicant, single exposure.
Specific Target Organ Toxicity - Repeated Exposure	The substance or mixture is not classified as a specific target organ toxicant; repeated exposure.
Reproductive Toxicity	It is not expected to have other reproductive effects.
Germ Cell Mutagenicity	It is not expected to be mutagenic in humans.
Aspiration Hazard	No data available
Information on Likely Routes of Exposure	<u>Inhalation</u> Yes
	<u>Skin Contact</u> Yes
	<u>Eye Contact</u> Yes

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Ingestion

Yes

Signs and Symptoms of Exposure

Inhalation

May cause severe irritation to the nose, throat, and respiratory tract. Symptoms may include coughing, choking, and wheezing. This could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Skin Contact

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 1 Causes severe skin burns and eye damage.

Eye Contact

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Eye Damage/Irritation - Category 1 Causes severe eye damage.

Ingestion

It may cause severe irritation and corrosive damage in the mouth, throat, and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Potential Chronic Health Effects

Chronic skin contact with low concentrations may cause dermatitis.

Carcinogenicity

ACGIH, IARC, OSHA or NTP list no components as carcinogens.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

The ecological characteristics of this product have not been thoroughly investigated. It should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. Toxicity is primarily associated with pH.

Persistence and Degradability

The methods for determining biodegradability do not apply to inorganic substances.

Bioaccumulative Potential

No data is available on the product itself.

Phosphoric acid (CAS 7664-38-2)

Partition coefficient n-octanol/water (log Kow) = -0.77

Mobility in Soil

No data is available on the product itself.

Other Adverse Effects

No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

If this product, as supplied, becomes a waste, it may meet the hazardous waste criteria defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial, and local laws and regulations. Regulations may

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vary in different locations. Waste characterizations and compliance with applicable laws are the sole responsibility of the waste generator.

SECTION 14. TRANSPORT INFORMATION

<u>Regulation</u>	<u>UN No.</u>	<u>Proper Shipping Name</u>	<u>Technical Name (for N.O.S. entry)</u>	<u>Transport Hazard Class(es)</u>	<u>Packing Group</u>
TDG	UN1805	PHOSPHORIC ACID SOLUTION	Not applicable	8	III
Additional information	It may be shipped as a LIMITED QUANTITY when transported in containers no larger than 4.0 L (1.0 gallon) for liquids or 5.0 kg (11 pounds) for solids in packages not exceeding 30 kg (66 pounds) gross mass.				
49 CFR/DOT	UN1805	PHOSPHORIC ACID SOLUTION	Not applicable	8	III
Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information if shipping under this exemption.				
IMDG	UN1805	PHOSPHORIC ACID SOLUTION	Not applicable	8	III
ICAO/IATA	UN1805	PHOSPHORIC ACID SOLUTION	Not applicable	8	III

Tariff Classification Number 2809.20.00

Special Precautions None were reported by the manufacturer.

Environmental Hazards Refer to section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available

SECTION 15. REGULATORY INFORMATION

Canadian Information

WHMIS Classification

Refer to Section 2 for a WHMIS Classification for this product.

Canada inventory (DSL/NDSL)

All components are listed on the DSL.

US Information

United States Inventory (TSCA)

Phosphoric acid (CAS 7664-38-2) is listed.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302)

5000 lbs / 2270 kg

SARA 304 RQ

2270 kg / 5000 lbs

SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355

None

SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical

No

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370

Hazard Classes

Immediate (Acute) health hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for reporting hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous

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substances and 10,000 pounds for all other hazardous chemicals.

State Regulations (MA, NY, NJ, PA, RI)

The following components are listed: Phosphoric acid

International Information

<u>Ingredients</u>	<u>EU (EINECS)</u>	<u>Australia (AICS)</u>	<u>Philippines (PICCS)</u>	<u>Japan (ENCS)</u>	<u>Korea (KECI/KECL)</u>	<u>China (IECSC)</u>	<u>New Zealand (IOC)</u>
Phosphoric Acid CAS 7664-38-2	231-633-2	Present	Present	(1)-422	KE-27427	Present	HSR001545, HSR001571 (dilution)

SECTION 16. OTHER INFORMATION

Date of Latest Revision

July 4, 2024

Disclaimer

The information provided in this document is correct to the best of our knowledge, information, and belief at the date of its publication. This information is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. This information is designed only as general guidance and should not be considered a warranty or quality specification. This information relates only to the specific material designated. Unless specified above, it may not be valid for such material used in combination with other materials or in any process.

END OF SAFETY DATA SHEET