




G.K. Chemical Specialties Co. Inc.
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SAFETY DATA SHEET (SDS)

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| PRODUCT NAME: D-LIME All Purpose Deliming Solution Concentrate | |
| HEALTH HAZARD RATING: | (2)- MODERATE HAZARD NFPA Rating |
| FLAMMABILITY HAZARD RATING: | (0)- MINIMAL HAZARD |
| REACTIVITY HAZARD RATING: | (0)- MINIMAL HAZARD |
| PERSONAL PROTECTION: | B - (Safety glasses, Gloves,) |
| HAZARD ALERT SIGN: |  |

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| SECTION 1 – IDENTIFICATION | |
| PRODUCT IDENTIFIER | |
| PRODUCT NAME | D-LIME All Purpose Deliming Solution Concentrate CLEAR |
| MANUFACTURER'S NAME AND ADDRESS EMERGENCY PHONE NO. | G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605/ 416-526-4037 |
| SUPPLIER'S NAME AND ADDRESS EMERGENCY PHONE NO. | |
| CHEMICAL NAME | NOT APPLICABLE |
| CHEMICAL FAMILY | ACID (Phosphoric Acid solution as the major ingredient in the formulation) |
| TRADE NAME AND SYNONYMS | NOT APPLICABLE |
| MATERIAL USE | COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL CLEANING |

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the SDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This SDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

INGREDIENTS. This SDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.

Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

T.L.V. (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m³ for a normal working day or at any time for some materials.

"C.A.S REG. No." means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

"LC 50" means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.

"LD 50" means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

FLASH POINT. The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

NIOSH- National institute for occupational safety and health

STEL- Short term exposure limit

TWA- Time-weighted average

PEL- Permissible exposure limit

ACGIH- American conference of governmental industrial hygienist

OSHA- Occupational safety and health act

SECTION 2 – HAZARD IDENTIFICATION

Dangerous Goods: **WHMIS:** CLASS E and Class D. DIV. 2B

GHS CLASSIFICATION

Acute Toxicity (oral, dermal) – Category 4

Eye Damage/ Irritation –Category 1

Skin Corrosion/Irritation – Category 1A

Respiratory Sensitization-Category 2

Toxic to the Aquatic Environment- Acute Hazard – Category 2

Metal Corrosion- Category 1

HAZARDOUS SUBSTANCE (HSNO) CLASSIFICATION

Corrosive liquid: CLASS E and CLASS D, DIV 2B

GHS Label Elements, including precautionary statements: Hazard Statements:

Signal word- DANGER

HAZARD STATEMENTS

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage

H302: Harmful if swallowed

H331: Toxic if inhaled

H290: May be corrosive to metals

PREVENTION

P261- Avoid breathing dust/fumes/gas/mist/vapors/spray

P264: Wash skin thoroughly after handling

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection

P405: Store locked up

P273: Avoid release to the environment

RESPONSE

P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes: Remove contact lenses if present and easy to do so. Continue rinsing.

P301 + P310: If swallowed: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331” IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P304 +P340 + P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water. Shower

POTENTIAL HEALTH EFFECTS

INHALATION: If mist is inhaled may be harmful. May Cause respiratory tract irritation.

SKIN: May cause skin irritation and/ or chemical burns.

EYE: May cause serious damage

INGESTION: May be fatal if swallowed



| SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS | | | | |
|---|-----------------------------------|-------------------------------------|---|--|
| HAZARDOUS INGREDIENTS | APPROXIMATE CONCENTRATION% | C.A.S., N.A. OR U.N. NUMBERS | LD50 {SPECIFY SPECIES & ROUTE} | LC 50 {SPECIFY SPECIES} |
| Phosphoric acid | 35 -45 | 7664-38-2 | Oral(Rat): 1530 mg/kg Derm.(Rabbit): 2730mg/kg | Inhalation ,(Rat): > 850 mg/m³/1h |
| ALCOHOLS, C9-C11 Ethoxylated | <1 | 68439-46-3 | Oral(Rat): 1400 mg/kg Dermal (Rat):>5000mg/kg | TLV: 25 ppm |
| 2-Butoxyethanol | 1 - 3 | 111-76-2 | Oral (Rat): 1300 mg/kg Dermal(Guinea pig): >2000mg/kg | |
| Poly(oxy-1,2 ethanediyl) a- Hydro-w hydroxyl- decylethers phosphate | <1 | 9002-92-0 | Oral(Rat): >500 mg/kg Dermal (Rabbit): >5,000mg/kg | |
| Water, inert | Balance | Non hazardous | | |

| SECTION 4 – FIRST AID MEASURES | |
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| SKIN CONTACT | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary. |
| EYE CONTACT | Immediately hold eyelids open and flush with water for at least 15 minutes. Seek medical attention. |
| INHALATION | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary |
| INGESTION | Harmful if swallowed. Do not induce vomiting. Drink 1 or 2 glasses of water. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. |
| NOTES TO PHYSICIAN | Product is corrosive material. Causes respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airways, difficulty breathing, bronchial spasms, chest pain, and pink frothy sputum. If ingested may cause burns or irritation of the lining of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this product may result in serious health hazard. Treat symptomatically |

| SECTION 5 – FIRE-FIGHTING MEASURES | |
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| FLASH POINT (°C) | Nil |
| FLASH POINT METHOD | Not applicable |
| AUTOIGNITION TEMPERATURE (°C) | Non-combustible |
| UPPER FLAMMABLE LIMIT (% VOL.) | Not applicable |
| LOWER FLAMMABLE LIMIT (% VOL.) | Not applicable |
| HAZARDOUS COMBUSTION PRODUCTS | Oxides of Phosphorus, Phosphine, Carbon dioxide, Carbon monoxide |

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| UNUSUAL FIRE/ EXPLOSION HAZARDS | Releases flammable hydrogen gas when reacting with metals |
| SENSITIVITY TO MECHANICAL IMPACT | No |
| SENSITIVITY TO STATIC DISCHARGE | No |
| EXTINGUISHING MEDIA | Use extinguishing agents compatible with acid and appropriate for the burning material. Use water spray to keep fire-exposed containers cool |
| SPECIAL FIRE FIGHTING PROCEDURES | Fire fighters should wear full protective clothing, including self-contained breathing equipment. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of Oxides of Phosphorus, Phosphine, Carbon dioxide, Carbon monoxide. Releases Hydrogen gas upon contact with metals. To neutralize this product use diluted Soda ash or slaked lime. |

| SECTION 6 – ACCIDENTAL RELEASE MEASURES | |
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| LEAK AND SPILL PROCEDURE | Stop leak. Move containers from spill area. Absorb spill with vermiculite absorbent material, neutralize the residue with a dilute solution of Limestone or Sodium Carbonate and place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. LARGE SPILL: Corrosive liquid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to knock down vapor drift. Neutralize the residue. Be careful that vapors are not present at a concentration level above TLV |
| ENVIRONMENTAL PRECAUTIONARY | Prevent entry into sewers or streams. Any release to the environment should be subject to federal or local reporting requirements. |
| PERSONAL PRECAUTIONARY MEASURES | Wear protective clothing during cleanup. See section 8 for recommendations on the use of personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with clothing and skin. |

| SECTION 7 – HANDLING AND STORAGE | |
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| HANDLING PROCETURES | Avoid contact with eyes and skin. Avoid ingestion. Use good industrial hygiene practices in handling this product. Keep container closed when not in use. |
| STORAGE NEEDS | Keep container tightly closed. Store in a cool area above freezing point. Keep out of the reach of children. Keep in properly labeled containers. Store in Polyethylene, stainless steel or glass containers. Store away from oxidizing agents and strong bases. |

| SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION | |
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| VENTILATION REQUIREMENTS | Good ventilation is recommended. When TLV (Threshold Limit Value over 8 hours of work) is greater than 25ppm (40 mg/ m ³) as Phosphoric acid provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective. TWA / STEL for USA NIOSH, USA ACGIH, CANADA: 1mg/m ³ (TWA), 3mg / m ³ (STEL) as Phosphoric acid. USA NIOSH IDLE (immediate danger): 1000 mg/m ³ as Phosphoric acid. USA OSHA TWA: 1 mg / m ³ as Phosphoric acid. |

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| PROTECTIVE EQUIPMENT | Ensure that eyewash stations are proximal to the work-station location. The selection of personal protective equipment will vary depending on the condition of use |
| EYE/TYPE | Splash goggles, safety glasses |
| RESPIRATORY/TYPE | Approved/ certified vapor respirator when airborne concentration exceed exposure limits. |
| GLOVE/TYPE | Nitrile, Vinyl, Butyl impervious gloves |
| FOOTWEAR/TYPE | Boots. Chemical resistant and as specified by the workplace |
| BODY/TYPE | Protective clothing is required. Use impervious clothing (apron, coveralls). The selection of personal protective equipment will vary depending on the conditions of use. |

| SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES | |
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| APPEARANCE – PHYSICAL STATE | Thin clear liquid |
| ODOUR | No odour to slight pungent |
| ODOUR THRESHOLD (PPM) | Not determined |
| PH | 2.3 ± 0.5 concentrate |
| MELTING POINT (°C) | See freezing point |
| BOILING POINT (°C) | >100°C (212° F) INITIAL |
| FREEZING POINT (°C) | 0°C (32° F) |
| EVAPORATION RATE | >1.00 (n-Butyl Acetate) |
| FLAMMABILITY | Not combustible |
| FLASH POINT (°C) | Not applicable |
| AUTO IGNITION TEMPERATURE | Not available |
| DECOMPOSITION TEMPERATURE | 300°C (572°F) |
| VAPOUR DENSITY | (air= 1) 3.4 @ 20°C |
| VAPOUR PRESSURE | @ 20°C 1-4 mmHg |
| SOLUBILITY | Completely soluble in water |
| VISCOSITY | Thin liquid |
| % VOLATILE BY VOLUME | 60 ± 1.0 % |
| SPECIFIC GRAVITY | 1.25 ± 0.04 gm / cm ³ @ 20°C |

| SECTION 10 – STABILITY AND REACTIVITY | |
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| REACTIVITY | Exothermic reaction with incompatible materials |
| CHEMICAL STABILITY | Stable under normal conditions |
| POSSIBILITY OF HAZARDOUS REACTIONS | Arise in contact with incompatible materials. Forms flammable and explosive Hydrogen gas through corrosion of metals. |
| CONDITIONS TO AVOID | Avoid incompatible materials |
| INCOMPATIBLE MATERIALS | Avoid contact with strong oxidizers, strong bases, metals, metal oxides, amines, carbonates other alkaline materials. Also Chlorates, Carbamates, , cyanides, sulfides, Nitromethane, Mercaptans, Aldehydes, Sodium tetrahydroborate, Nitrates, permanganates. |
| HAZARDOUS DECOMPOSITION PRODUCTS | Phosphine, Oxides of Phosphorous, Carbon monoxide, Carbon dioxide |

| SECTION 11 –TOXICOLOGICAL INFORMATION | |
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| TOXICITY EFFECTS ON ANIMALS | For Phosphoric acid (7664-38-2): Acute Oral Toxicity LD50 (Rat): 1,530 mg/kg. Acute Dermal Toxicity LD50 (Rabbit) 2,730 mg/kg, LC50- Inhalation (Rat) : >850 mg/m ³ (1h) |

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| | <p>For Alcohols, C9-C11 Ethoxylated (68439-46-3): Acute Oral Toxicity LD50 (Rat): 1,400 mg/kg. Acute Dermal Toxicity LD50 (Rat): >5,000 mg/kg.</p> <p>For 2-Butoxyethanol (111-76-2): Acute Oral Toxicity LD50 (Rat): 1,300 mg/kg. Acute Dermal Toxicity LD50 (Guinea pig): >2,000 mg/kg.</p> <p>For Poly(oxy-1,2 ethanediyl)a-Hydro-w hydroxyl-decylethers phosphate (9002-92-0): Acute Oral Toxicity LD50 (Rat): >500 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): >5,000 mg/kg.</p> |
| TOXIC EFFECTS ON HUMANS | <p>Inhalation: May cause irritation to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema.</p> <p>Ingestion: May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.</p> <p>Skin contact: May be absorbed through the skin in harmful amount. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Contact with this corrosive liquid may cause burns and ulceration</p> <p>Eye contact: May cause serious eye injury.</p> |
| CHRONIC EFFECTS ON HUMANS | Prolonged contact with skin may defat tissue causing dermatitis or skin problems. |
| CARCINOGENICITY | No evidence |
| TERATOGENICITY | No data available |
| MUTAGENICITY | No evidence |
| REPRODUCTIVE EFFECTS | No evidence |

| SECTION 12 –ECOLOGICAL INFORMATION | |
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| ECOTOXICITY DATA | <p>Figures for Phosphoric acid (7664-38-2): Acute Toxicity to fish LC50, Mosquito fish: 138 mg/ L / 96 hours. Acute toxicity to fish (bluegill sunfish) 96-hr static: LC50= PH3.0-3.5 LPH50 (median lethal PH.. Acute toxicity to aquatic invertebrates: (Daphnia magna) 12-hr static: EC50= PH4.6 (median lethal PH); (Daphnia pulex) 12- hr static: EC50= PH 4.1 (median lethal PH); (Gammarus pulex) 12- hr static: EC50= PH 3.4 (median lethal PH).</p> <p>Because of the low PH of this product, it would be expected to produce significant ecotoxicity upon exposure to organisms and aquatic system. Most aquatic species do not tolerate PH lower than 5.5 for extended period. Dangerous to aquatic life in high concentrations. Phosphates have the potential to increase the growth of freshwater algae. Phosphoric acid will degrade to Phosphine.</p> <p>Figures for Alcohols, C9-C11, Ethoxylated (68439-46-3): Acute Toxicity to fish, LC50 Fathead minnow (Pimephales promelas): 8.5 mg / L /96 h. Acute Toxicity to aquatic Invertebrates, EC50, Daphnia magna (Water flea): 5.3 mg / L /48 h. Ingredient is readily BIODEGRADABLE.</p> <p>Figures for 2-Butoxyethanol (111-76-2): Material is practically non-toxic to aquatic organisms on an acute basis (LC50 / EC50 >100 mg /L in most sensitive species tested). EC50, Daphnia magna (Water flea), Static test: 1,550 mg / L /48 h. Ingredient is BIODEGRADABLE.</p> <p>Figures for Poly(oxy-1,2 ethanediyl)a-Hydro-w hydroxyl-decylethers phosphate (9002-92-0): No data found. Very small amount in the formulation. Product not expected to be hazardous to aquatic life.</p> |

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| BIODEGRADABILITY | Does not bioaccumulate. Phosphoric acid dissociates in water and lowers the PH of water. It will be neutralized by naturally occurring alkalinity in water and soil. Under anaerobic conditions, microorganisms may degrade Phosphoric acid to Phosphine |
| PRODUCTS OF DEGRADATION | Phosphine |

| SECTION 13 – DISPOSAL CONSIDERATIONS | |
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| WASTE DISPOSAL | Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. This product is hazardous to the aquatic environment in large volumes. Keep out of waterways. |
| INFORMATION ON SAFE HANDLING FOR DISPOSAL INCLUDING ANY CONTAMINATED PACKAGING | Suitable waste facility. |

| SECTION 14 – TRANSPORT INFORMATION | |
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| UN NUMBER | 1805 |
| UN PROPER SHIPPING NAME | Phosphoric Acid Solution (Less than 45 %) |
| TRANSPORT HAZARD CLASS | CLASS: 8 (CORROSIVE) |
| PACKAGING GROUP | III |
| ENVIRONMENTAL HAZARDS | YES |
| TRANSPORT IN BULK, if applicable | NOT AVAILABLE |
| SPECIAL PRECAUTIONS | Guide to Canadian Transportation/ Emergency Response Guidebook (ERG): # 154 |

| SECTION 15 – REGULATORY INFORMATION | |
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| SAFETY HEALTH & ENVIRONMENTAL REGULATIONS SPECIFIC TO THE PRODUCT | U.S. TSCA inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) INVENTORY List or exempt. Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or exempt. |

| SECTION 16 – OTHER INFORMATION | |
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| PREPARED BY: | Gus Kaklamanos - Chemist |
| TELEPHONE NO.: | 416-261-7182 |
| DATE OF THE LATEST REVISION OF SDS: | August 25, 2021 |

NOTE: A lot of the information provided in this SDS may refer to very large or special usage of the product. The basic purpose of this product is to be used as a cleaner, where quantities stored and used at any time by various users are very small.