

Product Name: ADMIN

GPM Environmental Services

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Safety Data Sheet

I PRODUCT IDENTIFICATION

Product Name **ADMIN**
Synonyms **none**
CAS # **see listing in Part III**

II HAZARD SUMMARY

GHS Class *corrosive to metal* *skin corrosive*
(Category) *(no categories)* *(1)*
Signal Words **WARNING** **DANGER**



Hazard Statements *may be corrosive to metal (H290)* *causes severe skin burns & eye damage (H314)*

GHS Precautionary Statements for Labelling

P234, P390 **Keep only in original container. Absorb spillage to prevent material damage.**
P262 **Do not get in eyes, on skin or on clothing.**
P264 **Wash thoroughly after handling.**
P270 **Do not eat, drink or smoke when using this product.**
P280 **Wear eye protection, protective gloves and clothing of butyl or neoprene.**
P273 **Avoid release to the environment.**
P391 **Collect spillage.**
P313 & P333 **If skin irritation or rash occurs, get medical advice/attention.**

III COMPONENTS

| | CAS NUMBER | % | TLV ppm / mg/m ³ | LD ₅₀ (mg/kg) ORAL | LD ₅₀ (mg/kg) SKIN | LC ₅₀ (mg/m ³) INHALATION |
|-----------------|------------|---------|-----------------------------|-------------------------------|-------------------------------|--|
| Phosphoric Acid | 7664-38-2 | 20-40% | 1 | 1250 | >1250 | >25.5 |
| Water | 7732-18-5 | balance | not toxic | 90,000 | not toxic | not toxic |

IV FIRST AID

SKIN: Wash with plenty of water. Remove contaminated clothing and do not reuse until laundered.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If victim's breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below the hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Corrosive substance: first aid must be applied immediately! Inadvertent inhalation of vomited material may seriously damage the lungs. The stomach should only be emptied under medical supervision, after the installation of an airway to protect oesophagus & lungs from this corrosive material.



ENSURE THAT THIS MSDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.

EMERGENCY INFORMATION: Call CHEMTREC (800) 424-9300

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V FLAMMABILITY & FIREFIGHTING

| | |
|--------------------------|--|
| Flash Point | cannot burn |
| Autoignition Temperature | cannot burn |
| Flammable Limits | cannot burn |
| Combustion Products | oxides of phosphorous |
| Firefighting Precautions | as for materials sustaining fire; firefighters must wear acid-resistant suits and SCBA |
| Static Discharge | cannot accumulate a static charge |

VI ACCIDENTAL RELEASE MEASURES

| | |
|-----------------|---|
| Leak Precaution | dyke to control spillage and prevent environmental contamination |
| Handling Spill | ventilate contaminated area; recover free liquid with corrosion resistant pumps; absorb residue on an inert sorbent, sweep & pick up with a plastic shovel; & store in closed containers for disposal |

VII STORAGE & HANDLING

Store and use well away from alkalis and take care to use only metals resistant to phosphoric acid with this product. Never cut, drill, weld or grind on or near this container, whether empty or full. Always replace drum, pail or IBC cap prior to moving the container!

Avoid generating or breathing product mist. If mist forms in use install appropriate engineering controls to prevent its escape into the workplace. Control airborne titre to regulated limits (*see VIII, below*). Avoid all contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

VIII EXPOSURE CONTROL & PERSONAL PROTECTION

Phosphoric Acid:

| | | | |
|-------------|--|------------|--------------------|
| ACGIH TLV | 1mg/m ³ | ACGIH STEL | 3mg/m ³ |
| OSHA PEL | 1mg/m ³ | OSHA STEL | 3mg/m ³ |
| Ventilation | mechanical ventilation or other engineering control may be required to control airborne titre to regulated limits | | |
| Hands | wear butyl or neoprene gauntlet-style gloves – <i>other types may protect; confirm suitability with supplier</i> | | |
| Eyes | safety glasses with side shields or chemical goggles – <i>always protect eyes!</i> | | |
| Clothing | impermeable (hands, above) apron, boots, long sleeves, hat and face shield – <i>as appropriate to protect workers from any contact with the product under the conditions prevailing in the workplace</i> | | |

IX PHYSICAL CHARACTERISTICS

| | |
|---|--|
| Odour & Appearance | clear, colourless, liquid with virtually no odour |
| Odour Threshold | not known – <i>nearly odourless</i> |
| Vapour Pressure | not known – <i>approximately 20mmHg / 2.7kPa – this vapour is mostly water</i> |
| Evaporation Rate (<i>Butyl Acetate = 1</i>) | not known – <i>as for water</i> |
| Vapour Density (air = 1) | 0.6 (<i>water vapour</i>) |
| Boiling Point | approximately 102°C / 216°F |
| Freezing Point | approximately -10°C / 14°F |
| Specific Gravity | 1.18 (20/20°C) |
| Water Solubility | complete |
| - in other solvents | not known |
| Log P _{o/w} (<i>octanol/water partition</i>) | -0.77 |
| Viscosity | 2.5 centipoise (20°C / 68°F) – <i>a relatively thin, mobile liquid</i> |
| pH | 2.0 – 2.2 (5% solution) |
| Molecular Weight | 98grams/mole (<i>H₃PO₄</i>); 18grams/mold (<i>water</i>) |

X REACTIVITY

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| | |
|---------------------------|--|
| Dangerously Reactive With | alkalis – <i>reaction will be very vigorous</i> |
| Also Reactive With | corrodes many metals |
| Chemical Stability | stable; will not polymerize |
| Decomposes in Presence of | high temperatures to yield oxides of phosphorous |
| Decomposition Products | none apart from Hazardous Combustion Products |
| Mechanical Impact | not sensitive |

XI TOXICITY

i. EFFECTS OF ACUTE EXPOSURE

| | |
|------------------------------------|--|
| Skin Contact | corrosive to skin |
| Skin Absorption | slight; toxic effects unlikely by this route |
| Eye Contact | corrosive to eyes – <i>permanent damage likely</i> |
| Inhalation | product mist is corrosive to respiratory system |
| Ingestion | corrosive to mouth, throat & stomach; <i>ingestion may cause death</i> |
| Calculated LD ₅₀ (oral) | 4260mg/kg (rat) |
| Calculated LD ₅₀ (skin) | 4300mg/kg (rabbit) |
| LC ₅₀ (inhalation) | not known |

ii. EFFECTS OF CHRONIC EXPOSURE

| | |
|----------------------|--|
| General | dermatitis reported on repeated skin contact with solutions too dilute to be corrosive |
| Sensitising | not a sensitiser |
| Carcinogen/Tumorigen | not known to be a tumorigen or a carcinogen in humans or animals |
| Reproductive Effect | no known effect on humans or animals |
| Mutagen | not known to be a mutagen or teratogen in humans or animals |
| Synergistic With | not known |

XII ENVIRONMENTAL INFORMATION

Phosphoric Acid:

| | |
|-------------------------|---|
| Bioaccumulation | phosphoric acid cannot bioaccumulate |
| Biodegradation | inorganic acid – cannot biodegrade; a limiting plant nutrient – taken up by plant material |
| Abiotic Degradation | neutralized by carbonate rock & soils; the resulting phosphate compounds persist |
| Mobility in soil, water | water soluble, moves readily in soil and water, reacting with carbonate soil constituents as it travels; <i>In the presence of soil aluminum, calcium or magnesium, phosphoric acid forms insoluble & immobile phosphates.</i> |

Aquatic Toxicity

| | |
|------------------------------------|---|
| LC ₅₀ (Fish 96 hr) | pH 3-3.5 (Lepomis macrochirus & Gambusia affinis) – <i>no phosphoric acid concentration given</i> |
| LC ₅₀ (Crustacea, 48hr) | pH 4.6 (Daphnia magna), pH 4.1 (Daphnia pulex), pH 3.4 (Gammarus pulex) – <i>no concentration given</i> |
| EC ₅₀ (Algae, 96hr) | <i>no information</i> |
| LC ₅₀ (Microorganisms) | 270mg/litre (“activated sludge”) – approximately equivalent to pH=2.8 |

Other (minor) components:

These are all readily biodegradable, cannot bioaccumulate, and exhibit very low toxicity to aquatic life.

XIII DISPOSAL / CONTAINERS

| | |
|----------------|---|
| Waste Disposal | do not flush to sewer; un-neutralized liquid may be sent to a hazardous waste specialist who will use it to neutralize alkaline waste; local regulations may allow neutralized material to be dumped in sanitary landfill |
| Containers | Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use. Pails must be vented and thoroughly dried prior to crushing and recycling. IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5 years). Steel containers must be inspected, pressure tested & recertified every 5 years. Warning: never cut, drill, weld or grind on or near this container, even if empty. |

XIV TRANSPORTATION CLASSIFICATION



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Product Name: ADMIN
USA 49 CFR & Canada TDG
Product Identification Number
Shipping Name

UN – 3264
CORROSIVE LIQUID ACIDIC, INORGANIC N.O.S.
(phosphoric acid)
Class 8; Packing Group III
not a marine pollutant
17,000lbs (phosphoric acid)

Classification
Marine Pollution
Reportable Quantity (RQ)

EMERGENCY INFORMATION

In the U.S.A. Call CHEMTREC (800) 424-9300
In Canada Call CANUTEC (collect) (613) 996-6666

XV REGULATIONS

Canada DSL on inventory
U.S.A. TSCA on inventory
Europe EINECS on inventory

U.S.A. Regulations:

Immediately Dangerous to Life or Health: 1000 mg/cu m

Acceptable Daily Intakes: FAO/WHO expert committee on food additives...recommended...levels/ for total dietary phosphorus...unconditional acceptance level /of less than 30 mg/kg body wt/ is considered safe in any type of diet...conditional acceptance level /of 30-70 mg/kg body wt/ is acceptable only when dietary calcium level is high /phosphates/

Allowable Tolerances: Residues of phosphoric acid are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: buffer. Limit: none. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (b) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Dairy processing equipment, and food-processing equipment and utensils. Phosphoric acid is included on this list. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (c) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-processing equipment and utensils. Phosphoric acid is included on this list.

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 1 mg/cu m. Vacated 1989 OSHA PEL TWA 1 mg/cu m; STEL 3 mg/cu m is still enforced in some states.

NIOSH Recommendations: Recommended Exposure Limit: 10 Hr Time-Weighted avg: 1 mg/cu m. Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 3 mg/cu m.

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 1 mg/cu m; 15 min Short Term Exposure Limit (STEL): 3 mg/cu m.

Clean Water Act Requirements: Phosphoric acid is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance.

CERCLA Reportable Quantities: Persons in charge of vessels or facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 5000 lb or 2270 kg. The toll free number of the NRC is (800) 424-8802. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3.b).

FIFRA Requirements: Residues of phosphoric acid are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: buffer. Limit: none. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (b) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Dairy processing equipment, and food-processing equipment and utensils. Phosphoric acid is included on this list. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (c) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-processing equipment and utensils. Phosphoric acid is included on this list. Based on reviews of the generic data for the active ingredients mineral acids, the Agency has sufficient information on the health effects of mineral acids /including phosphoric acid/ and on its potential for causing adverse effects in fish and wildlife and the environment. Therefore, the Agency concludes that products, labeled and used as specified in the Reregistration Eligibility Decision, containing mineral acids for all uses except for the use of sulfuric acid on potato vines, are eligible for reregistration. As the federal pesticide law FIFRA directs, EPA is conducting a comprehensive review of older pesticides to consider their health and environmental effects and make decisions about their continued use. Under this pesticide reregistration program, EPA examines newer health and safety data for pesticide active ingredients initially registered before November 1, 1984, and determines whether the use of the pesticide does not pose unreasonable risk in accordance to newer safety standards, such as those described in the Food Quality Protection Act of 1996. Pesticides for which EPA had not issued Registration Standards prior to the effective date of FIFRA '88 were divided into three lists based upon their potential for human exposure and other factors, with List B containing pesticides of greater concern than those on List C, and with List C containing pesticides of greater concern than those on List D. Phosphoric acid is found on List D. Case No: 4064; Pesticide type: fungicide, herbicide, antimicrobial; Case Status: RED Approved 2/94; OPP has made a decision that some/all uses of the pesticide are eligible for reregistration, as reflected in a Reregistration Eligibility Decision (RED) document .; Active ingredient (AI): phosphoric acid; AI Status: OPP has completed a Reregistration Eligibility Decision (RED) for the case/AI.

FDA Requirements: Phosphoric acid used as a multiple purpose GRAS food substance in food for human consumption is generally recognized as safe when used in accordance with good manufacturing practice. Phosphoric acid used as a general purpose food additive in animal drugs, feeds, and related products is generally recognized as safe when used in accordance with good manufacturing or feeding practice.



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XVI OTHER INFORMATION

Date of Preparation **December 2014**

Date of Revision **-**

Prepared for Brainerd Chemical Company, by **Peter Bursztyn**

Resources: **CHEMINFO** (Canadian Centre for Occupational Health & Safety), **Hazardous Substances Data Bank** (US National Library of Science), **IUCLID Datasheet** (European Union), **ESIS European Chemical Substances Information System** (European Union), **OSHA Database** (US Dept. of Labor)



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