SAFETY DATA SHEET

Weldphos Mn

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Weldphos Mn**
Product code:	5101
Recommended use of the chemical and restrictions on use:	Heavy manganese phosphate coating on iron/steel.
Chemical family:	Mixture.
Name, address and phone # of supplier:	Aqua Bond Inc. PO Box 63635, Toronto, ON, M1V 5K2 (416) 754-7211
24 Hr. Emergency phone #	**CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: 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).

Hazard classification:
ACUTE AQUATIC HAZARD CATEGORY 3
ACUTE TOXICITY, ORAL- CATEGORY 4
CARCINOGEN CATEGORY 1A
CHRONIC AQUATIC HAZARD CATEGORY 3
METAL CORROSION CATEGORY 1
REPRODUCTIVE TOXICITY CATEGORY 1B
RESPIRATORY SENSITIZER CATEGORY 1A
SERIOUS EYE **DAMAGE**- CATEGORY 1
SKIN CORROSION/IRRITATION CATEGORY 1A
SKIN SENSITIZER CATEGORY 1
STOT-RE- CATEGORY 2
STOT-SE- CATEGORY 3



Label elements:

Signal word: DANGER

Hazard statements:
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H360 May damage fertility or the unborn child.

	H372 Causes damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements:	P201 Obtain special instructions before use. P234 Keep only in original container/packaging. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 [In case of inadequate ventilation] wear respiratory protection. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P363 Wash contaminated clothing before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405 Store locked up. P501 Dispose of contents in accordance with local/regional/national/ inernational regulations.
Other hazards:	Not known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Mixture

Ingredient name	**CAS Number**	**Concentration (%)**
Water	7732-18-5	40-60
Phosphoric acid	7664-38-2	20-30
Nitric acid	7697-37-2	10-15
Manganese oxide	1313-13-9	5-10
Nickel Oxide	1313-99-1	<1%
Trade Secret	-	<1%

Concentrations are shown as ranges due to batch variation.

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do

	so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing.
Inhalation	Remove from contaminated area. Lay patient down. Keep warm and rested. For advice, contact Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. I
Skin contact	Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water.
Eye contact	Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable	Water spray or fog. Foam.
Unsuitable	None known.
Special hazards arising from the substance:	Alert Fire Department and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course.
Hazardous thermal decomposition products:	Oxides of nitrogen and phosphorus under thermal decomposition.
Special protective actions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up:	Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
Special spill response procedures:	In case of transportation accident, contact CANUTEC (613) 996-6666.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Put on appropriate personal protective equipment. Avoid exposure -obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Conditions for safe storage:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be resealed and kept upright. Do not store in unlabeled containers.
Incompatible materials:	strong alkali, sulfides, cyanides.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits

Ingredient	**Exposure limits**
Phosphoric acid	**OSHA** PEL:1 mg/m3 STEL: 3mg/m3 **ACGIH** TLV:1mg/m3 STEL: 3mg/m3
Nitric acid	**ACGIH TLV (United States, 4/2014).**

	STEL: 10 mg/m³ 15 minutes. STEL: 4 ppm 15 minutes. TWA: 5.2 mg/m³ 8 hours. TWA: 2 ppm 8 hours. **NIOSH REL (United States, 10/2013).** STEL: 10 mg/m³ 15 minutes. STEL: 4 ppm 15 minutes. TWA: 5 mg/m³ 10 hours. TWA: 2 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. TWA: 2 ppm 8 hours.
Manganese oxide	**OSHA PEL** 5 mg/m^3 (ceiling) **ACGIH TLV** 0.02 mg/m^3 (resp)
Nickel Oxide	**ACGIH TLV** TWA: 0.02 mg/m^3 **OSHA PEL** (Vacated) TWA:15 mg/m^3 **NIOSH IDLH** IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3
Engineering controls:	Use with adequate ventilation to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Individual protection measures:	Eyes/face: Chemical splash goggles and face shield. Skin: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Respiratory: Wear appropriate respirator when ventilation is inadequate. Be sure to use a NIOSH approved respirator or equivalent.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear green liquid.
Odour:	Sharp acidic odour.
Odour threshold:	Not available.
pH:	Approx 1.0 (10% solution)
Melting point:	Not available.
Freezing point:	Not available.
Initial boiling point and boiling range:	>100 °C.
Flash point:	Not applicable.
Evaporation rate:	Not available.

Flammability:	Not flammable.
Upper and lower flammability limits:	Not applicable.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	1.35-1.37
Solubility:	Soluble in water, hot or cold.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Contact with alkaline material liberates heat. Unstable in the presence of incompatible materials.
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	None.
Incompatible materials:	Strong alkali, sulfides, cyanides.
Hazardous decomposition products:	Will not decompose under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure:	SKIN AND EYES: yes INHALATION: yes
Potential health effects (acute):	EYE: If applied to the eyes, this material causes severe eye damage. Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. INHALATION: Inhalation of vapors or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. SKIN CONTACT: Skin contact with the material may be harmful; systemic effects may result following absorption. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly ly with the formation of scar tissue. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. **Skin Absorption**: No information available for this product.

	INGESTION: Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and esophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Poisonings rarely occur after oral administration of manganese salts because they are poorly absorbed from the gut.
Medical Conditions Aggravated by Exposure:	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's edema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
Potential chronic health effects:	Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Studies show that inhaling this substance for over a long period (e.g. in an occupational setting) may increase the risk of cancer. Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.
Carcinogenicity:	The components are not listed as carcinogens.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	No known significant effects or critical hazards.
Sensitization:	There are no data available on the mixture itself.

Toxicological effects:

Acute toxicity:

Product	**Result**	**Species**	**Dose**	**Exposure**
Phosphoric acid	LD50 oral	Rat	1530mg/kg	-
	LD50 dermal	Rabbit	2740mg/kg	-
Nitric acid	LC50 inhalation	Rat	0.05-0.5mg/L	4 hours

Acute toxicity estimate:

Route	**ATE value**
Inhalation	0.137mg/L

Irritation/corrosion:

Name	**Category**	**Route**
Phosphoric acid	Category 1	Skin/Eye
Nitric acid	Category 1	Skin/Eye

Specific target organ toxicity single exposure:

Name	**Category**	**Route**	**Target organs**
Phosphoric acid	Category 1	Inhalation	Respiratory tract irritation.
Nitric acid	Category 1	Inhalation	Respiratory tract irritation.

Specific target organ toxicity repeated exposure:

Name	Category	Route	Target organs
Nitric acid	Category 1	Inhalation	Tooth, respiratory system

Target organs: Contains material which causes damage to the following organs: Lungs, tooth enamel.

Aspiration hazard: Not available.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Name	Result	Species	Exposure
Nitric acid	Acute LC50 180000µg/L Marine water	Crustaceans- Carcinus maenas-adult	48 hours
	Acute LC50 72ppm Fresh water	Fish-Gambusia affinis-adult	96 hours
Phosphoric acid	LC50 138mg/L	Fish Gambusia affinis	96 hours

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil: Not available.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	UN3264
UN proper shipping name:	Corrosive liquid, acidic, inorganic, N.O.S. (Phosphoric acid, Nitric acid)

Transport hazard class:	8
Packing group:	II
Environmental hazard:	No.
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

Canada inventory (DSL): All components are listed.

SECTION 16: OTHER INFORMATION

Revision date: July 09, 2024

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

Disclaimer

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