

MSDS ATTACHMENT

PLEASE ATTACH THIS COMPLETED SHEET TO THE MSDS FOR :

PRODUCT :

BONDERITE M-ZN 2

DATE :

(MSDS date)

07.07.2022

1. Manufacturer/Supplier :

PPS Industries Limited
86 Hugo Johnston Drive, Auckland
New Zealand
P.O.Box 12823, Penrose, Auckland 1642
Phone : 64 9 579-1001
Facsimile : 64 9 579-9497
Emergency Phone : 0800 657-894
Website: www.ppsindustries.co.nz

Emergency Information :

National Poison Centre 0800 764-766
Chemcall 24/7 Emergency Response Service : 0800 243-622

13. Disposal Considerations :

Product

Recommendation - Consult local or national regulations to ensure proper disposal.

Packaging

Disposal must be made according to official regulations.

16. Other Information :

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.



Safety Data Sheet

Page 1 of 10

BONDERITE M-ZN 2 ZINC PHOSPHATE known as Lithoform 2
25Kg

SDS No. : 319445

V001.3

Revision: 07.07.2022

printing date: 26.10.2023

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: BONDERITE M-ZN 2 ZINC PHOSPHATE known as Lithoform 2 25Kg

Intended use: Surface pretreatment

Supplier:
Henkel New Zealand Ltd
2 Allens Rd
Auckland, 2013
New Zealand
Phone: +64 (9) 272-6710

Emergency information: 24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).
Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>
Skin corrosion	Sub-category 1B
Skin corrosion	Category 1C
Serious eye damage/eye irritation	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 1A
Toxic to reproduction	Category 1B
Target Organ Systemic Toxicant - Repeated exposure	Category 2
Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

Hazard pictogram:



Signal word:

Danger

Hazard statement(s):	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H350 May cause cancer. H360 May damage fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Precautionary Statement(s):	
Prevention:	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe mist/vapours. P264 Wash hands thoroughly after handling. 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.
Response:	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 [or shower]. 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 physician. P305+P351+P338+P315 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Get immediate medical advice/attention. P308+P313 IF exposed or concerned: Get medical advice/attention. P333+P313 IF skin irritation or rash occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse.
Storage:	P405 Store locked up.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description: Mixture

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
sodium chlorate	7775-09-9	1- < 10 %
phosphoric acid	7664-38-2	1- < 3 %
Nitric acid	7697-37-2	1- < 3 %
ammonium bifluoride	1341-49-7	0.1- < 1 %
nickel dinitrate	13138-45-9	0.3- < 1 %
non hazardous ingredients~		60- <= 100 %

SECTION 4 FIRST AID MEASURES

Ingestion: Do Not Delay.
If material is ingested, immediately contact a physician or poison control center.
Do not induce vomiting.
If individual is conscious, wash out mouth with water.
Seek medical advice immediately and show this container or label.

Skin: In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water.
Get immediate medical attention.

Eyes:	Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.
Inhalation:	Move to fresh air. Keep warm and in a quiet place. Get immediate medical attention.
First Aid facilities:	Eye wash and safety shower
Medical attention and special treatment:	Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water fog.
Decomposition products in case of fire:	Acrid smoke and fumes. phosphorus oxides May react with metals to form flammable hydrogen gas.
Special protective equipment for fire-fighters:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Additional fire fighting advice:	In case of fire, keep containers cool with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with skin and eyes. Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material. Use personal protective equipment as described in Section 8.
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Dike the spilled material, where this is possible. Inform authorities in the event of product spillage to water courses or sewage systems. Local authorities should be advised if significant spills cannot be contained. Collect contaminated washing water for appropriate disposal.
Clean-up methods:	Absorb the product with dry sand, vermiculite or other inert material. Put adsorbed material into suitable containers and remove them to a safe place, where it can be stored until disposal. Dispose of contaminated material as waste according to Section 13. Flush area with water to remove trace residue.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:	Avoid breathing mists or aerosols of this product. Avoid contact with eyes, skin and clothing. Avoid contact with incompatible materials. For industrial use only. Use good hygiene practices when handling this material, including changing and laundering work clothes after use. Discard contaminated shoes and leather goods. Use personal protective equipment as described in Section 8.
Conditions for safe storage:	Store away from incompatible materials identified in section 10. Store in locked premises or with access restricted to especially instructed personnel. Store in sealed original container. Store in a cool, dry, well-ventilated area.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Celling	STEL (ppm)	STEL (mg/m3)
PHOSPHORIC ACID 7664-38-2			1			
NITRIC ACID 7697-37-2		2	5.2			
NITRIC ACID					4	10
FLUORIDES, AS F 1341-49-7			2.5			
NICKEL INORGANIC COMPOUNDS, RESPIRABLE DUST 13138-45-9	Respirable dust.		0.005			
NICKEL INORGANIC COMPOUNDS			0.02			

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional information
Ammonium hydrogendifluoride 1341-49-7 [FLUORIDES]	Fluoride	Urine	Sampling time: Prior to shift.	2 mg/l	NZ BEI	The BEI is not applicable to non-metal fluorides and organic fluoride-containing compounds. As dietary and environmental factors can vary the fluoride body concentrations, repeated measurements are necessary. Biological levels of fluorides are indicators	
Ammonium hydrogendifluoride 1341-49-7 [FLUORIDES [BEL 2]]	Fluoride	Urine	Sampling time: End of shift.	3 mg/l	NZ BEI	The BEI is not applicable to non-metal fluorides and organic fluoride-containing compounds. As dietary and environmental factors can vary the fluoride body concentrations, repeated measurement	

							s are necessary. Biological levels of fluorides are indicators
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- Engineering controls:** Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.
- Eye protection:** Wear chemical goggles; face shield (if splashing is possible).
- Skin protection:** Use chemical resistant, impervious gloves and clothing to prevent skin contact.
Recommended gloves include butyl rubber and neoprene.
Use of impervious apron and boots are recommended.
- Respiratory protection:** If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:** green liquid
- Odor:** typical
- pH:** 2.3 - 2.7
- Specific gravity:** 1.02 - 1.04
- Density:** 1.02 - 1.04 g/cm³
- Solubility in water:** fully miscible

SECTION 10. STABILITY AND REACTIVITY

- Stability:** Stable under normal conditions of temperature and pressure.
- Incompatible materials:** Keep away from alkalis.
Metals.
- Hazardous decomposition products:** Toxic fumes.
phosphorus oxides

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

- Ingestion:** Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed.
- Skin:** Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.
May cause an allergic skin reaction.
- Eyes:** This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.
- Inhalation:** Inhalation of vapors or mists of the product may be irritating to the respiratory system.
- Chronic effects:** Contains fluorides. Exposure to fluorides over years may cause fluorosis.
An ingredient in this product is listed as a Group 1 carcinogen by IARC.
- Carcinogenicity:** Category 1A, May cause cancer.
- Toxicity for reproduction:** Toxic to reproduction, category 1B, May damage fertility or the unborn child.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
sodium chlorate 7775-09-9	LD50 LC50 Acute toxicity estimate (ATE) LD50	1,200 mg/kg > 5.59 mg/l 5.591 mg/l > 2,000 mg/kg	oral inhalation inhalation dermal	4.5 h	rat rat rabbit	not specified EPA OPP 81-3 (Acute inhalation toxicity) Expert judgement EPA OPP 81-2 (Acute Dermal Toxicity)
phosphoric acid 7664-38-2	Acute toxicity estimate (ATE)	1,500 mg/kg	oral			Expert judgement
Nitric acid 7697-37-2	Acute toxicity estimate (ATE)	2.65 mg/l	inhalation			Expert judgement
ammonium bifluoride 1341-49-7	LD50	130 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
nickel dinitrate 13138-45-9	LD50 LC50	361.9 mg/kg 2.48 mg/l	oral inhalation	4 h	rat rat	OECD Guideline 423 (Acute Oral toxicity) not specified

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
sodium chlorate 7775-09-9	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
phosphoric acid 7664-38-2	corrosive	24 h	rabbit	not specified
Nitric acid 7697-37-2	corrosive			not specified
ammonium bifluoride 1341-49-7	corrosive			not specified

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
sodium chlorate 7775-09-9	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Nitric acid 7697-37-2	corrosive			not specified

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
sodium chlorate 7775-09-9	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
sodium chlorate 7775-09-9	negative negative negative	bacterial reverse mutation assay (e.g Ames test) mammalian cell gene mutation assay DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
sodium chlorate 7775-09-9	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
phosphoric acid 7664-38-2	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Nitric acid 7697-37-2	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
ammonium bifluoride 1341-49-7	negative	bacterial reverse mutation assay (e.g Ames test)	no data		not specified

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
sodium chlorate 7775-09-9	NOAEL=100 mg/kg	oral: gavage	90 days (13 weeks)daily (7/7)	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
phosphoric acid 7664-38-2	NOAEL=250 mg/kg	oral: gavage	6 wdaily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Nitric acid 7697-37-2	NOAEL=1,500 mg/kg	oral: gavage	28 ddaily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

SECTION 12. ECOLOGICAL INFORMATION

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity: Harmful to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
sodium chlorate 7775-09-9	LC50	> 1,000 mg/l	Fish	96 h	Oncorhynchus mykiss	EPA OPP 72-1 (Fish Acute Toxicity Test)
sodium chlorate 7775-09-9	NOEC	500 mg/l	Fish	36 d	Danio rerio	OECD Guideline 210 (fish early life stage toxicity test)
sodium chlorate 7775-09-9	EC50	> 1,000 mg/l	Daphnia	48 h	Daphnia magna	EPA OPP 72-2 (Aquatic Invertebrate Acute Toxicity Test)
sodium chlorate 7775-09-9	EC50	2.4 mg/l	Algae	72 h	other:	OECD Guideline 201 (Alga, Growth Inhibition Test)
sodium chlorate 7775-09-9	EC50	> 1,000 mg/l	Bacteria	3 h	activated sludge, domestic	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
phosphoric acid 7664-38-2	LC50	> 100 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
phosphoric acid 7664-38-2	EC50	> 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
phosphoric acid 7664-38-2	EC50	> 100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
phosphoric acid 7664-38-2	NOEC	100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
phosphoric acid 7664-38-2	IC50	270 mg/l	Bacteria	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Nitric acid 7697-37-2	LC50	12.5 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Nitric acid 7697-37-2	EC50	4.6 mg/l	Daphnia	48 h	Ceriodaphnia dubia	other guideline:
Nitric acid 7697-37-2	EC50	> 1,000 mg/l	Bacteria	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
ammonium bifluoride 1341-49-7	LC50	421.4 mg/l	Fish	96 h	not specified	not specified
ammonium bifluoride 1341-49-7	NOEC	3.88 mg/l	Fish	61 d	Oncorhynchus gorbuscha	OECD Guideline 210 (fish early life stage toxicity test)
ammonium bifluoride 1341-49-7	EC50	39 - 72 mg/l	Daphnia	96 h	other:	other guideline:
ammonium bifluoride 1341-49-7	EC50	9,043.28 mg/l	Algae	18 d	Chlorella vulgaris	not specified
ammonium bifluoride 1341-49-7	EC10	1,317 mg/l	Bacteria			ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
nickel dinitrate 13138-45-9	NOEC	104 µg/l	Fish		Oncorhynchus mykiss	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
nickel dinitrate 13138-45-9	LC50	8.1 mg/l	Fish	96 h	Lepomis gibbosus	OECD Guideline 203 (Fish, Acute

nickel dinitrate 13138-45-9	EC50	0.915 mg/l	Daphnia	48 h	Daphnia magna	Toxicity Test) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
nickel dinitrate 13138-45-9	EC50	0.284 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
sodium chlorate 7775-09-9	< -2.9				20 °C	OECD Guideline 117 (Partition Coefficient (n- octanol / water), HPLC Method)

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal of product: In consultation with the responsible local authority, must be subjected to special treatment: Neutralisation

SECTION 14. TRANSPORT INFORMATION

Dangerous Goods information:

Land Transport:

Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

Land Transport:

UN no.: 3264
Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid, Phosphoric acid)
Class or division: 8
Packing group: III

Marine transport IMDG:

UN no.: 3264
Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid, Phosphoric acid)
Class or division: 8
Packing group: III
EmS: F-A ,S-B
Seawater pollutant: -

Air transport IATA:

UN no.: 3264
Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid, Phosphoric acid)
Class or division: 8
Packing group: III
Packing instructions (passenger): 852
Packing instructions (cargo): 856

SECTION 15. REGULATORY INFORMATION

New Zealand regulatory information:

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

HSNO Approval Number: Group standard HSR002610

NZIoC: Compliant for NZIOC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms: STEL - Short term exposure limit
TWA - Time weighted average
HSNO - Hazardous Substances and New Organisms
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

Reason for issue: Reviewed SDS. Reissued with new date. involved chapters: 1-16

Date of previous issue: 09.08.2020

Disclaimer:

The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel New Zealand Limited, but only as an approximate guide to the content of hazardous ingredients in the material. The information contained herein does not constitute a guarantee by Henkel New Zealand Limited concerning the properties of the material.

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