

MSDS ATTACHMENT

PLEASE ATTACH THIS COMPLETED SHEET TO THE MSDS FOR :

PRODUCT :

BONDERITE M-ZN 404 R

DATE :

(MSDS date)

25.01.2019

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

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BONDERITE M-ZN 404 R

SDS No. : 429756

V001.2

Revision: 25.01.2019

printing date: 25.01.2019

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: BONDERITE M-ZN 404 R

Intended use: Conversion coating

Supplier:

Henkel New Zealand Ltd.
2 Allens Road
Auckland, 2014
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

HSNO Classification:

Class 8 - Corrosiveness, Subclass 8.1 - Metallic corrosive, Hazard Classification A
Class 8 - Corrosiveness, Subclass 8.2 - Skin corrosive, Hazard Classification B
Class 8 - Corrosiveness, Subclass 8.3 - Eye corrosive, Hazard Classification A
Class 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification D
Class 6 - Toxicity, Subclass 6.7 - Carcinogen, Hazard Classification A
Class 6 - Toxicity, Subclass 6.9 - Target organ, Hazard Classification B
Class 9 - Ecotoxicity, Subclass 9.1 - Aquatic, Hazard Classification B

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Route of Exposure</u>
Corrosive to metals	Category 1	
Acute toxicity	Category 4	Oral
Acute toxicity	Category 4	Dermal
Skin corrosion/irritation	Category 1B	
Serious eye damage/eye irritation	Category 1	
Carcinogenicity	Category 1A-1C	
Target Organ Systemic Toxicant - Repeated exposure	Category 2	
Chronic hazards to the aquatic environment	Category 2	

Hazard pictogram:



Signal word:

Danger

- Hazard statement(s):** H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic 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.
P234 Keep only in original packaging.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash affected area thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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+P315 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get immediate medical advice/attention.
P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical attention.
P312 Call a POISON CENTER/doctor if you feel unwell.
P314 Get medical attention if you feel unwell.
P390 Absorb spillage to prevent material damage.
- Storage:** P405 Store locked up.
P406 Store in container with a resistant inner liner.
- Disposal:** P501 Dispose of contents/container in accordance with national regulation.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description: Mixture

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
Zinc nitrate	7779-88-6	10- 30 %
Orthophosphoric acid	7664-38-2	< 10 %
zinc bis(dihydrogen phosphate)	13598-37-3	10- 30 %
NH4H-difluoride	1341-49-7	< 1 %
Hydrogen fluoride (HF)	7664-39-3	< 1 %
Nickel dinitrate	13138-45-9	< 1 %
non hazardous ingredients~		30- 60 %

SECTION 4 FIRST AID MEASURES

- Ingestion:** Rinse mouth, do not induce vomiting, consult a doctor.
- Skin:** Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Eyes:	Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.
Inhalation:	Move to fresh air, consult doctor if complaint persists.
First Aid facilities:	Normal washroom facilities Eye wash and safety shower
Most important symptoms caused by exposure:	The product may cause serious eye damage.
Medical attention and special treatment:	Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water spray or fog.
Improper extinguishing media:	High pressure waterjet
Decomposition products in case of fire:	Thermal decomposition can lead to release of irritating gases and vapors. Toxic fluorides. Oxides of phosphorus.
Particular danger in case of fire:	Non combustible - Danger of decomposition if exposed to heat. Formation of toxic gases is possible during heating or in fires.
Special protective equipment for fire-fighters:	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).
Additional fire fighting advice:	In case of fire, keep containers cool with water spray. Collect contaminated fire fighting water separately. It must not enter drains.
Hazchem code:	2X

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Ensure adequate ventilation. Avoid contact with skin and eyes. Wear protective equipment.
Environmental precautions:	Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Collect contaminated washing water for appropriate disposal.
Clean-up methods:	Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Neutralize the spilled material before disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:	Do not inhale vapors and fumes. Avoid skin and eye contact. When using do not eat, drink or smoke. Wear suitable protective clothing, safety glasses and gloves.
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Conditions for safe storage: Store in sealed original container.
Must be stored in the facility for the dangerous goods
Keep container tightly sealed.
Keep away from food, beverages and animal feed.
Store away from incompatible materials identified in section 10.
Store in a cool, dry, well-ventilated area.

Unsuitable materials with product: Do not store together with flammable solutions.
aluminum

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	-	-	-
FLUORIDES, AS F 1341-49-7			2.5	-	-	-
HYDROGEN FLUORIDE, AS F 7664-39-3			-	3 ppm	-	-
NICKEL SOLUBLE COMPOUNDS, AS NI 13138-45-9			0.1	-	-	-

Engineering controls: Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation.

Eye protection: For eye protection, use tightly fitted safety goggles and a face-shield

Skin protection: Wear suitable protective clothing.
Suitable protective gloves.

Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

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
Slightly Hazy, liquid

Odor: mild

Specific gravity: 1.49 - 1.53

Boiling point: > 100 °C (> 212 °F)

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of temperature and pressure.

Conditions to avoid: Excessive heat.

Incompatible materials: Alkalis.
Organic materials.
Oxidizing agents.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors.
Toxic fluorides.
Oxides of phosphorus.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:
Ingestion: Harmful if swallowed.
 May cause burns of mouth and throat if swallowed.
Skin: Harmful in contact with skin.
 May cause skin burns.
 Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Eyes: Causes serious eye damage.
 Symptoms may include severe irritation, pain, tearing, blurred vision.
Inhalation: Severe respiratory tract irritation.
 Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Carcinogenicity: Category 1B (Carcinogen), May cause cancer.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Orthophosphoric acid 7664-38-2	Acute toxicity estimate (ATE)	1,500 mg/kg 5.1 mg/l	oral inhalation			Expert judgement Expert judgement
zinc bis(dihydrogen phosphate) 13598-37-3	Acute toxicity estimate (ATE)	500 mg/kg 300 - 2,000 mg/kg	oral oral		rat rabbit	Expert judgement OECD Guideline 423 (Acute Oral toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
NH4H-difluoride 1341-49-7	LD50	> 2,000 mg/kg	dermal			
	LD50	130 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Orthophosphoric acid 7664-38-2	corrosive	24 h	rabbit	not specified
zinc bis(dihydrogen phosphate) 13598-37-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
NH4H-difluoride 1341-49-7	corrosive			not specified
Hydrogen fluoride (HF) 7664-39-3	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
zinc bis(dihydrogen phosphate) 13598-37-3	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
Orthophosphoric 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)
zinc bis(dihydrogen phosphate) 13598-37-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
zinc bis(dihydrogen phosphate) 13598-37-3	negative	intraperitoneal		mouse	Micronucleus assay
NH ₄ F-difluoride 1341-49-7	negative	bacterial reverse mutation assay (e.g Ames test)	no data		not specified
Hydrogen fluoride (HF) 7664-39-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Orthophosphoric 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)
zinc bis(dihydrogen phosphate) 13598-37-3	NOAEL=31.52 mg/kg	oral: feed	13 weeksdaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Hydrogen fluoride (HF) 7664-39-3	NOAEL=0,82 mg/m ³	inhalation: gas	6 h5 days/week	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)

SECTION 12. ECOLOGICAL INFORMATION

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

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Zinc nitrate 7779-88-6	LC50	7.8 mg/l	Fish	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Zinc nitrate 7779-88-6	EC50	5.2 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Zinc nitrate 7779-88-6	IC50	0.394 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Zinc nitrate 7779-88-6	NOEC	0.070 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Zinc nitrate 7779-88-6	EC50	5.2 mg/l	Bacteria	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Orthophosphoric acid 7664-38-2	LC50	> 100 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Orthophosphoric acid 7664-38-2	EC50	> 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Orthophosphoric acid 7664-38-2	EC50	> 100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Orthophosphoric acid 7664-38-2	NOEC	100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Orthophosphoric acid 7664-38-2	IC50	270 mg/l	Bacteria	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
zinc bis(dihydrogen phosphate) 13598-37-3	LC50	780 µg/l	Fish	96 h	Pimephales promelas	not specified
zinc bis(dihydrogen phosphate) 13598-37-3	EC50	> 330 - 660 µg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
zinc bis(dihydrogen phosphate) 13598-37-3	NOEC	24 µg/l	Algae	3 d	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
zinc bis(dihydrogen phosphate) 13598-37-3	IC50	136 µg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
zinc bis(dihydrogen phosphate) 13598-37-3	EC0	0.69 mg/l	Bacteria	30 min		not specified
NH4H-difluoride 1341-49-7	LC50	421.4 mg/l	Fish	96 h	not specified	not specified
NH4H-difluoride 1341-49-7	NOEC	3.88 mg/l	Fish	61 d	Oncorhynchus gorbuscha	OECD Guideline 210 (fish early lite stage toxicity test) other guideline:
NH4H-difluoride 1341-49-7	EC50	39 - 72 mg/l	Daphnia	96 h	other:	
NH4H-difluoride 1341-49-7	EC50	9,043.28 mg/l	Algae	18 d	Chlorella vulgaris	not specified
NH4H-difluoride 1341-49-7	EC10	1,317 mg/l	Bacteria			ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

Hydrogen fluoride (HF) 7664-39-3	LC50	107.5 mg/l	Fish	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydrogen fluoride (HF) 7664-39-3	EC50	270 mg/l	Daphnia	48 h	Daphnia sp.	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hydrogen fluoride (HF) 7664-39-3	EC10	650 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrogen fluoride (HF) 7664-39-3	EC50	> 1,000 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test) not specified
Hydrogen fluoride (HF) 7664-39-3	EC10	231 mg/l	Bacteria	16 h		
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 Toxicity Test)
Nickel dinitrate 13138-45-9	EC50	0.915 mg/l	Daphnia	48 h	Daphnia magna	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)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Zinc nitrate 7779-88-6	Rapidly degradable	aerobic	70 %	other guideline:

SECTION 13. DISPOSAL CONSIDERATIONS

- Waste disposal of product:** Dispose of in accordance with local and national regulations. In consultation with the responsible local authority, must be subjected to special treatment: Neutralisation
- Recommended cleanser:** Water, if necessary with added cleaning agent.
- Disposal for uncleaned package:** Collection and delivery to recycling enterprise or other registered elimination institution. Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

SECTION 14. TRANSPORT INFORMATION

Land Transport:

UN no.: 3264
 Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, Zinc nitrate)
 Class or division: 8
 Packing group: II
 Hazchem code: 2X

Marine transport IMDG:

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

Air transport IATA:

UN no.: 3264
Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid,Zinc nitrate)
Class or division: 8
Packing group: II
Packing instructions (passenger) 851
Packing instructions (cargo) 855

SECTION 15. REGULATORY INFORMATION

HSNO Approval Number: Group standard HSR002612
Site and Storage: Refer to the site and storage requirements for this Group Standard.
Refer to the HSNO controls for approved hazardous substances.
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
GHS: Globally Harmonized System
CAS: Chemical Abstracts Service
LD 50: Lethal Dose 50%
LC 50: Lethal Concentration 50%
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
Reason for issue: New Safety Data Sheet format. involved chapters: 1 - 16

Date of previous issue: 22.02.2013

Disclaimer:

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