MSDS ATTACHMENT

PLEASE ATTACH THIS COMPLETED SHEET TO THE MSDS FOR :

PRODUCT : BONDERITE M-CR 12MU

DATE : (MSDS date) 17.05.2019

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

BONDERITE M-CR 12MU

SDS No. : 429731
V001.2
Revision: 17.05.2019
printing date: 17.05.2019

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: BONDERITE M-CR 12MU

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 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification C
Class 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification D
Class 6 - Toxicity, Subclass 6.5 - Sensitisation, Hazard Classification A
Class 6 - Toxicity, Subclass 6.5 - Sensitisation, Hazard Classification B
Class 6 - Toxicity, Subclass 6.6 - Mutagen, Hazard Classification A
Class 6 - Toxicity, Subclass 6.7 - Carcinogen, Hazard Classification A
Class 6 - Toxicity, Subclass 6.8 - Reproductive/developmental, Hazard Classification B
Class 6 - Toxicity, Subclass 6.9 - Target organ, 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 9 - Ecotoxicity, Subclass 9.1 - Aquatic, Hazard Classification A

GHS Classification:

Hazard Class	Hazard Category	Route of Exposure	Target organ
Acute toxicity	Category 4	Oral	
Acute toxicity	Category 3	Inhalation	
Acute toxicity	Category 3	Dermal	
Skin corrosion	Category 1		
Serious eye damage/eye irritation	Category 1		
Respiratory sensitizer	Category 1		
Skin sensitizer	Category 1		
Germ cell mutagenicity	Category 1B		
Carcinogenicity	Category 1A		
Toxic to reproduction	Category 2		
Target Organ Systemic Toxicant - Single exposure	Category 3		respiratory tract irritation
Target Organ Systemic Toxicant - Repeated exposure	Category 1		
Acute hazards to the aquatic environment	Category 1		
Chronic hazards to the aquatic environment	Category 1		

Hazard pictogram:

Signal word: Danger

Hazard statement(s):

H302 Harmful if swallowed.
H311+H331 Toxic in contact with skin or if inhaled.
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.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very 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.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
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.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P301+P312 IF SWALLOWED: 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 [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 do. 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.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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
Chromium trioxide	1333-82-0	10- < 30 %
NH4H-difluoride	1341-49-7	5- < 10 %
Nitric acid	7697-37-2	3- < 5 %
non hazardous ingredients~		60- < 100 %

SECTION 4 FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Have victim rinse mouth thoroughly with water. Get immediate medical attention.
Skin:	In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. Get immediate medical attention.
Eyes:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical attention.
Inhalation:	If inhaled, immediately remove the affected person to fresh air. Keep warm and in a quiet place. Delayed effects possible after inhalation. Get immediate medical attention.
First Aid facilities:	Eye wash and safety shower Normal washroom facilities
Medical attention and special treatment:	Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Improper extinguishing media:	High pressure waterjet
Combustion behaviour:	Non-flammable (aqueous solution). In case of fire toxic gases can proceed after evaporation of water and further heating of the product.
Decomposition products in case of fire:	Irritating and toxic gases or fumes may be released during a fire. Oxides of nitrogen. Carbon monoxide. Carbon dioxide. Chromium oxide. Fluorine. Hydrogen fluoride
Particular danger in case of fire:	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. 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:	Keep unprotected persons away. Avoid contact with skin and eyes. Wear protective equipment. Ensure adequate ventilation. Use personal protective equipment as described in Section 8.
Environmental precautions:	Do not empty into drains / surface water / ground water. Do not allow product to enter sewer or waterways. Wear appropriate protective equipment and clothing during clean-up.
Clean-up methods:	Do not use any organic materials (e.g. sawmill waste). Neutralize acid using lime or a lime based agent compatible with the product. Remove with liquid-absorbing material (sand, peat, sawdust). Store in a partly filled, closed container until disposal.

Wash away residue with plenty of water.
Dispose of contaminated material as waste according to Section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with eyes, skin and clothing.
Wear suitable protective clothing, safety glasses and gloves.
Do not breathe gas/fumes/vapor/spray.
Ensure that workrooms are adequately ventilated.
Vapours should be extracted to avoid inhalation.
For industrial use only.
Do not freeze.

Conditions for safe storage:

Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.
Storage at 15 to 25°C is recommended.
Isolate from incompatible substances.
Protect from freezing.
Must be stored in the facility for the dangerous goods

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Ceiling	STEL (ppm)	STEL (mg/m3)
CHROMIUM (VI) COMPOUNDS, AS CR, WATER SOLUBLE 1333-82-0			0.05	-	-	-
FLUORIDES, AS F 1341-49-7			2.5	-	-	-
NITRIC ACID 7697-37-2		2	5.2	-	-	-
NITRIC ACID		-	-	-	4	10

Engineering controls:

Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

Eye protection:

Tightly fitting safety goggles
Wear face shield.

Skin protection:

Use of impervious apron and boots are recommended.
Suitable protective gloves.
Protective clothing that covers arms and legs.
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.
Butyl rubber gloves.

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: dark red
clear, liquid
Odor: mild
pH: < 1
Specific gravity: 1.24 - 1.28

SECTION 10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions of temperature and pressure.

Conditions to avoid:

Keep away from heat, ignition sources and incompatible materials.

Incompatible materials:

Heat. Contact with most metals produces highly flammable hydrogen gas.
Keep away from organic materials, combustible materials, alkalis and metals.
Incompatible with oxidising agents.
Can attack glass and vitreous materials.

Hazardous decomposition products:

Thermal decomposition can lead to release of irritating gases and vapors.

Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.
Chromium oxide.
Fluorine.
Hydrogen fluoride.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

Ingestion: Harmful if swallowed.
Ingestion causes burns of the upper digestive and respiratory tracts.
If ingested, severe burns of the mouth and throat may occur, as well as perforation of the esophagus and the stomach.

Skin: Toxic in contact with skin.
Causes skin burns.
Symptoms may include redness, burning, drying, cracking and skin burns.
May cause allergic skin reaction.
Because of the chromium, may cause cancer.

Eyes: Causes serious eye damage.
Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Inhalation: Toxic by inhalation.
This product is irritating to the respiratory system.
Can cause severe irritation and burns to the respiratory tract.
May cause allergic respiratory reaction.
May cause cancer by inhalation.

Chronic effects: Contains fluorides. Exposure to fluorides over years may cause fluorosis.

Carcinogenicity: Category 1A (Carcinogen), May cause cancer.

Toxicity for reproduction: Toxic to reproduction, category 2, Suspected of damaging fertility or the unborn child.

Mutagenicity: Category 1B (Mutagen), This product contains an ingredient which has been associated with mutagenicity effects.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Chromium trioxide 1333-82-0	LD50 LC50 LD50	80 - 114 mg/kg 0.186 mg/l 57 mg/kg	oral inhalation dermal	 4 h 	rat rat rabbit	not specified OECD Guideline 403 (Acute Inhalation Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
NH4H-difluoride 1341-49-7	LD50	130 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Nitric acid 7697-37-2	LC50	> 2.65 mg/l	inhalation	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Chromium trioxide 1333-82-0	corrosive	24 h	rabbit	not specified
NH4H-difluoride 1341-49-7	corrosive			not specified
Nitric acid 7697-37-2	corrosive			not specified

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Chromium trioxide 1333-82-0	corrosive		rabbit	not specified
Nitric acid 7697-37-2	corrosive			not specified

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Chromium trioxide 1333-82-0	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
NH4H-difluoride 1341-49-7	negative	bacterial reverse mutation assay (e.g Ames test)	no data		not specified
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)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Chromium trioxide 1333-82-0	NOAEL=0.0007 mg/l	inhalation	90 daystaeglich 20 Stunden	rat	not specified
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., May cause long-term adverse effects in the aquatic environment., Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems., Chromium and chromium compounds have high toxicity for water living organisms.

Ecotoxicity: Very toxic to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Chromium trioxide 1333-82-0	LC50	52 mg/l	Fish	96 h	Carassius auratus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Chromium trioxide 1333-82-0	NOEC	0.105 mg/l	Fish	60 d	Salvelinus namaycush	OECD Guideline 210 (fish early lite stage toxicity test)
Chromium trioxide 1333-82-0	EC50	0.5 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Chromium trioxide 1333-82-0	EC0	1 mg/l	Bacteria			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)
NH4H-difluoride 1341-49-7	EC50	39 - 72 mg/l	Daphnia	96 h	other:	other guideline:
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)
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)

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal of product: Dispose of as hazardous waste in compliance with local and national regulations.
In consultation with the responsible local authority, must be subjected to special treatment: Neutralisation
Do not allow product to enter sewer or waterways.

Recommended cleanser: Clean the packaging with water.

Disposal for uncleaned package: Collection and delivery to recycling enterprise or other registered elimination institution.
Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

Land Transport:

UN no.:	2922
Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Chromic acid,Ammonium bifluoride,Nitric acid)
Class or division:	8 (6.1)
Packing group:	II
Hazchem code:	2X
Emergency information:	Refer to the Dangerous Goods - Initial Emergency Response Guide HB 76.

Marine transport IMDG:

UN no.:	2922
Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Chromic acid,Ammonium bifluoride,Nitric acid)
Class or division:	8 (6.1)
Packing group:	II
EmS:	F-A ,S-B
Seawater pollutant:	Marine pollutant

Air transport IATA:

UN no.:	2922
Proper shipping name:	Corrosive liquid, toxic, n.o.s. (Chromic acid,Ammonium bifluoride,Nitric acid)
Class or division:	8 (6.1)
Packing group:	II
Packing instructions (passenger)	851
Packing instructions (cargo)	855

SECTION 15. REGULATORY INFORMATION

HSNO Approval Number: Group standard HSR002673

NZIoC: Compliant for NZIOC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms:
STEL - Short term exposure limit
TWA - Time weighted average
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: 19.05.2014

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.

The information contained in this Safety Data Sheet is offered in good faith and has been developed from what is believed to be accurate and reliable sources. The information is offered without warranty, representation, inducement or licence and Henkel New Zealand Limited assumes no legal responsibility for reliance upon same. Henkel New Zealand Limited disclaims any liability for loss, injury or damage incurred in connection with the use of the material or its associated Safety Data Sheet.

This information is not to be construed as a representation that the material is suitable for any particular purpose or use except those conditions and warranties implied by Government statutes. Customers are encouraged to make their own enquiries as to the material's characteristics and, where appropriate, to conduct their own tests in the specific context of the material's intended use.

No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.