



Safety Data Sheet

Page 1 of 11

BONDERITE M-CR 12 R

SDS No.: 319468

V001.2

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SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: BONDERITE M-CR 12 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 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification B
- Class 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification C
- 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 B

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Route of Exposure</u>	<u>Target organ</u>
Acute toxicity	Category 3	Oral	
Acute toxicity	Category 3	Inhalation	
Acute toxicity	Category 2	Dermal	
Skin corrosion	Category 1B		
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 2		
Chronic hazards to the aquatic environment	Category 2		

Hazard pictogram:



Signal word:

Danger

Hazard statement(s): H301+H331 Toxic if swallowed or if inhaled.
 H310 Fatal in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation.
 H361 Suspected of damaging fertility or the unborn child.
 H372 Causes 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.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 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.
 P285 In case of inadequate ventilation wear respiratory protection.

Response: P301+P310+P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
 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 %
Hydrogen fluoride (HF)	7664-39-3	< 10 %
Nitric acid	7697-37-2	< 5 %
Reminder not hazardous including water~		60- 100 %

SECTION 4 FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Have victim rinse mouth thoroughly with water. Immediate medical treatment necessary.
Skin:	In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. Treat contaminated skin with Ca-gluconate gel (burn jelly). Can penetrate into deeper parts of the skin and cause severe burns which are very painful and cure very slowly. Immediate medical treatment necessary.
Eyes:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical treatment necessary.
Inhalation:	If inhaled, immediately remove the affected person to fresh air. Keep warm and in a quiet place. Delayed effects possible after inhalation. Immediate medical treatment necessary.
First Aid facilities:	Eye wash and safety shower Normal washroom facilities Calcium gluconate gel
Medical attention and special treatment:	Treat symptomatically. Ocular exposure to corrosive fluoride compounds has been treated with isotonic sodium chloride or magnesium chloride. Dermal exposure to corrosive fluoride compounds has been treated with calcium gluconate or calcium carbonate gel applied topically to the affected areas to relieve pain at the site of exposure.

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.
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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: IN CASE OF CONTACT OR SUSPICION OF CONTACT, PROMPT MEDICAL ATTENTION IS ABSOLUTELY NECESSARY.
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 1333-82-0			0.01	-	-	-
CHROMIUM (VI) COMPOUNDS, AS CR, WATER SOLUBLE			0.01	-	-	-
HYDROGEN FLUORIDE, AS F 7664-39-3		-	-	3 ppm	-	-
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. Wear protective clothing of hydrofluoric acid resistant material. Check the durability of the protective clothing with your supplier, likewise the guaranteed protection time. Protective clothing, which is not in accordance with the required protection, has to be immediately cleaned and changed after contamination with hydrofluoric acid containing products.
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:	clear, red liquid
Odor:	None
Density:	1.10 - 1.15 g/cm ³
Solubility in water:	Miscible

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:

Toxic 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:

Also very toxic in contact with skin.
Causes skin burns.
Hydrofluoric acid will penetrate the skin and attack underlying tissue and bone. Large burns (over 25 square inches) may also cause hypocalcemia and other systemic effects which may be fatal.
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)
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
Hydrogen fluoride (HF) 7664-39-3	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
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
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)
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 days taeglich 20 Stunden	rat	not specified
Hydrogen fluoride (HF) 7664-39-3	NOAEL=0,82 mg/m³	inhalation: gas	6 h 5 days/week	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
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: 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 namayoush	OECD Guideline 210 (fish early life 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) not specified
Chromium trioxide 1333-82-0	EC0	1 mg/l	Bacteria			
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		
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. (Chromium trioxide,Hydrofluoric acid)
Class or division: 8 (6.1)
Packing group: II
Hazchem code: 2X

Marine transport IMDG:

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

Air transport IATA:

UN no.: 2922
Proper shipping name: Corrosive liquid, toxic, n.o.s. (Chromium trioxide,Hydrofluoric 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
Tracking: HSNO 6.1B substance
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: Reviewed SDS, Reissued with new date. involved chapters: 1-16

Date of previous issue: 25.07.2017

Disclaimer:

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