



## Safety Data Sheet according to (EC) No 1907/2006 as amended

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BONDERITE M-CR 600 CHROMATE COATING AERO

SDS No. : 94232  
V005.1

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

BONDERITE M-CR 600 CHROMATE COATING AERO

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:

Chromating Products for Metals

Surface treatment for applications in the aeronautics and aerospace industries, unrelated to functional chrome plating or functional chrome plating with decorative character, where any of the following key functionalities is necessary for the intended use: corrosion resistance / active corrosion inhibition, chemical resistance, hardness, adhesion promotion (adhesion to subsequent coating or paint), temperature resistance, resistance to embrittlement, wear resistance, surface properties impeding deposition of organisms, layer thickness, flexibility, and resistivity

#### 1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

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For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

[SDSinfo.Adhesive@henkel.com](mailto:SDSinfo.Adhesive@henkel.com)

#### 1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (CLP):

Oxidizing solids	Category 2
H272 May intensify fire; oxidizer.	
Acute toxicity	Category 3
H301 Toxic if swallowed.	
Route of Exposure: Oral	
Acute toxicity	Category 3
H331 Toxic if inhaled.	
Route of Exposure: Inhalation	
Acute toxicity	Category 2
H310 Fatal in contact with skin.	
Route of Exposure: Dermal	
Skin corrosion	Category 1A
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Respiratory sensitizer	Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Germ cell mutagenicity	Category 1B
H340 May cause genetic defects.	
Carcinogenicity	Category 1A
H350 May cause cancer.	
Toxic to reproduction	Category 2
H361f Suspected of damaging fertility.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Specific target organ toxicity - repeated exposure	Category 1
H372 Causes damage to organs through prolonged or repeated exposure.	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

### 2.2. Label elements

#### Label elements (CLP):

##### Hazard pictogram:



##### Contains

Sodium tetrafluoroborate

Chromium trioxide

Dipotassium hexafluorozirconate

##### Signal word:

Danger

<b>Hazard statement:</b>	H340 May cause genetic defects. H350 May cause cancer. H272 May intensify fire; oxidizer. H301 Toxic if swallowed. H310 Fatal in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H331 Toxic if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H361f Suspected of damaging fertility. H372 Causes damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.
<b>Supplemental information</b>	Restricted to professional users.
<b>Precautionary statement: Prevention</b>	P201 Obtain special instructions before use. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe dust. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement: Response</b>	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. 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 advice/attention. P310 Immediately call a POISON CENTER or doctor. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P370+P378 In case of fire: Use CO <sub>2</sub> , dry chemical, or foam for extinction.
<b>Authorisation Numbers :</b>	REACH/20/18/17

**2.3. Other hazards**

None if used properly.

Following substances are present in a concentration  $\geq$  the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration  $\geq$  the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**

**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

<b>Hazardous components CAS-No. EC Number REACH-Reg No.</b>	<b>Concentration</b>	<b>Classification</b>	<b>Specific Conc. Limits, M-factors and ATEs</b>	<b>Add. Information</b>
Sodium tetrafluoroborate 13755-29-8 237-340-6 01-2120770718-42	40- 60 %	Skin Corr. 1B, H314 Eye Dam. 1, H318		EU OEL
Chromium trioxide 1333-82-0 215-607-8 01-2119458868-17	20- 37 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Ox. Sol. 1, H271 Acute Tox. 3, Oral, H301 Acute Tox. 2, Dermal, H310 Acute Tox. 2, Inhalation, H330 Skin Corr. 1A, H314 Skin Sens. 1, H317 Resp. Sens. 1, H334 Muta. 1B, H340 Carc. 1A, H350 Repr. 2, H361f STOT RE 1, H372	STOT SE 3; H335; C >= 1 % ===== M acute = 1 M chronic = 1 ===== inhalation:ATE = 0,186 mg/l;dust/mist	SVHC
Dipotassium hexafluorozirconate 16923-95-8 240-985-6 01-2119978269-18	10- 20 %	Acute Tox. 3, Oral, H301 Eye Dam. 1, H318	oral:ATE = 51 mg/kg	EU OEL

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation:

Remove person from dust-contaminated zone.

Immediate medical treatment necessary.

#### Skin contact:

Immediately rinse with copious amounts of running water (for 10 minutes). Remove contaminated clothes. Put on a bandage with sterile gauze, seek medical attention in hospital.

#### Eye contact:

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.

#### Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.

Immediate medical treatment necessary.

### 4.2. Most important symptoms and effects, both acute and delayed

Causes burns.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### 4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media:

Carbon dioxide, foam, powder  
Water spray jet

#### Extinguishing media which must not be used for safety reasons:

High pressure waterjet

### 5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in fires.

### 5.3. Advice for firefighters

Wear protective equipment.  
Wear self-contained breathing apparatus.

#### Additional information:

The product itself does not burn. Any fire extinguishing action should be appropriate to the surroundings.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Keep unprotected persons away.  
Avoid contact with skin and eyes.  
Avoid dust formation.

### 6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

### 6.3. Methods and material for containment and cleaning up

Remove mechanically.  
Do not use any organic materials (e.g. sawmill waste).  
Dispose of contaminated material as waste according to Section 13.

### 6.4. Reference to other sections

See advice in section 8

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid skin and eye contact.  
Ensure that workrooms are adequately ventilated.  
See advice in section 8  
Avoid dust formation.  
When diluting, always stir slowly the product into standing water.

#### Hygiene measures:

Wash hands before work breaks and after finishing work.  
Do not eat, drink or smoke when using this product.  
Wash contaminated clothing before reuse.  
The workplace should be equipped with an emergency shower and eye-rinsing facility.

**7.2. Conditions for safe storage, including any incompatibilities**

Alterations are reversible after warming to room temperature.

Crystallization may occur at low temperatures.

Store only in the original container.

The alterations have no negative influence on the product quality and stability.

Store in a dry place.

Must be stored in a room with spill collection facilities.

Store in a cool place.

Keep container tightly sealed.

Keep container in a well ventilated place.

Store frost-free.

Do not use packing made of metal.

Do not store near sources of heat or ignition, or reactive materials.

Store above 10°C. (50°F)

Store below 120°F (50°C).

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

Do not store together with strong bases or very alkaline substances.

Do not store together with substances which intensify fire.

Do not store together with substances which can be oxidized.

**7.3. Specific end use(s)**

Chromating Products for Metals

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational Exposure Limits

Valid for  
Germany

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Sodium tetrafluoroborate 13755-29-8 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECLTV
Sodium tetrafluoroborate 13755-29-8		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Sodium tetrafluoroborate 13755-29-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Sodium tetrafluoroborate 13755-29-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Sodium tetrafluoroborate 13755-29-8		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Sodium tetrafluoroborate 13755-29-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Sodium tetrafluoroborate 13755-29-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Chromium trioxide 1333-82-0 [CHROMIUM (VI) COMPOUNDS]		0,005	Time Weighted Average (TWA):	This limit does not apply until: 17 January 2025	EU OELIII
Chromium trioxide 1333-82-0 [CHROMIUM (VI) COMPOUNDS, AS CHROMIUM, FUMES]		0,025	Time Weighted Average (TWA):		EU OELIII
Chromium trioxide 1333-82-0 [CHROMIUM (VI) COMPOUNDS]		0,01	Time Weighted Average (TWA):		EU OELIII
Chromium trioxide 1333-82-0 [CHROMIUM (VI) COMPOUNDS]		0,025	Time Weighted Average (TWA):		EU OELIII
Chromium trioxide 1333-82-0		2	Exposure limit(s):	1	TRGS 900
Chromium trioxide 1333-82-0			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Chromium trioxide 1333-82-0 [Chromium VI compounds (Inhalable Fraction) (as Cr)]			Tolerance Concentration (4 x 10 <sup>-3</sup> ):		TRGS 910
Chromium trioxide 1333-82-0 [Chromium VI compounds (Inhalable Fraction) (as Cr)]			Excursion factor:	8 Factor by which the average shift value (SMW) can be exceeded four times per shift during a maximum. period of 15 minutes each.	TRGS 910
Dipotassium hexafluorozirconate 16923-95-8 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECLTV
Dipotassium hexafluorozirconate 16923-95-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Dipotassium hexafluorozirconate 16923-95-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Dipotassium hexafluorozirconate 16923-95-8		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there	TRGS 900

				should be no risk of reproductive damage (see Number 2.7).	
Dipotassium hexafluorozirconate 16923-95-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Dipotassium hexafluorozirconate 16923-95-8		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Dipotassium hexafluorozirconate 16923-95-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Sodium tetrafluoroborate 13755-29-8	aqua (freshwater)		2 mg/l				
Sodium tetrafluoroborate 13755-29-8	aqua (marine water)		0,2 mg/l				
Sodium tetrafluoroborate 13755-29-8	sewage treatment plant (STP)		55 mg/l				
Chromium trioxide 1333-82-0	aqua (freshwater)		0,003 mg/l				
Chromium trioxide 1333-82-0	aqua (marine water)		0,003 mg/l				
Chromium trioxide 1333-82-0	sewage treatment plant (STP)		0,21 mg/l				
Chromium trioxide 1333-82-0	sediment (freshwater)				0,15 mg/kg		
Chromium trioxide 1333-82-0	sediment (marine water)					0,15 ng/kg	
Chromium trioxide 1333-82-0	Soil				0,031 mg/kg		
Chromium trioxide 1333-82-0	oral				17000000 mg/kg		
Dipotassium hexafluorozirconate 16923-95-8	aqua (freshwater)		0,163 mg/l				
Dipotassium hexafluorozirconate 16923-95-8	aqua (marine water)		0,163 mg/l				
Dipotassium hexafluorozirconate 16923-95-8	aqua (intermittent releases)		0,107 mg/l				
Dipotassium hexafluorozirconate 16923-95-8	sediment (freshwater)				28,86 mg/kg		
Dipotassium hexafluorozirconate 16923-95-8	sediment (marine water)				5,77 mg/kg		
Dipotassium hexafluorozirconate 16923-95-8	Soil				22,5 mg/kg		
Dipotassium hexafluorozirconate 16923-95-8	sewage treatment plant (STP)		1,77 mg/l				



**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Chromium trioxide 1333-82-0	Workers	Inhalation	Acute/short term exposure - local effects		0,01 mg/m <sup>3</sup>	
Chromium trioxide 1333-82-0	Workers	Inhalation	Long term exposure - local effects		0,01 mg/m <sup>3</sup>	
Dipotassium hexafluorozirconate 16923-95-8	Workers	inhalation	Long term exposure - systemic effects		6,2 mg/m <sup>3</sup>	
Dipotassium hexafluorozirconate 16923-95-8	Workers	inhalation	Acute/short term exposure - systemic effects		6,2 mg/m <sup>3</sup>	
Dipotassium hexafluorozirconate 16923-95-8	Workers	inhalation	Long term exposure - local effects		6,2 mg/m <sup>3</sup>	
Dipotassium hexafluorozirconate 16923-95-8	Workers	dermal	Long term exposure - systemic effects		89 mg/kg	
Dipotassium hexafluorozirconate 16923-95-8	Workers	dermal	Acute/short term exposure - systemic effects		89 mg/kg	
Dipotassium hexafluorozirconate 16923-95-8	General population	dermal	Long term exposure - systemic effects		44,5 mg/kg	
Dipotassium hexafluorozirconate 16923-95-8	General population	dermal	Acute/short term exposure - systemic effects		44,5 mg/kg	

**Biological Exposure Indices:**

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Sodium tetrafluoroborate 13755-29-8 [Inorganic fluorine compounds (fluorides)]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		
Dipotassium hexafluorozirconate 16923-95-8 [Inorganic fluorine compounds (fluorides)]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		

**8.2. Exposure controls:**

Engineering controls:  
Thorough dedusting.

Respiratory protection:

In case of dust formation, we recommend wearing of appropriate respiratory protection equipment with particle filter P (EN 14387).

This recommendation should be matched to local conditions.

Hand protection:

Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Fluorinated rubber (FKM;  $\geq$  0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Fluorinated rubber (FKM;  $\geq$  0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:  
Goggles which can be tightly sealed.  
Protective eye equipment should conform to EN166.

Skin protection:  
Protective clothing that covers arms and legs.  
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Delivery form	solid material
Colour	light brown
Odor	odourless
Physical state	solid
Melting point	> 180 °C (> 356 °F)
Solidification temperature	Not applicable, Product is a solid.
Initial boiling point	Not applicable, Decomposition.
Flammability	The product is not flammable.
Explosive limits	Not applicable, Product is a solid.
Flash point	Not applicable
Flash point	> 260 °C (> 500 °F)
Auto-ignition temperature	Not applicable, Product is a solid.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	1,3 - 1,7 PH-value, potentiometer
(20 °C (68 °F); Conc.: 15 g/l; Solvent: Water)	
Viscosity (kinematic)	Not applicable, Product is a solid.
Solubility (qualitative)	Soluble
(20 °C (68 °F); Solvent: Water)	
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	< 0,1 hPa
(20 °C (68 °F))	
Density	2,6 - 2,7 g/cm <sup>3</sup> no method / method unknown
(20 °C (68 °F))	
Bulk density	1.800 - 1.900 g/l
Relative vapour density:	Not applicable, Product is a solid.
Particle characteristics	Particle Size - D <sub>50</sub> > 3 mm Weight based calculation method

### 9.2. Other information

Other information not applicable for this product

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reaction with strong bases

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

No decomposition if used according to specifications.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

None if used for intended purpose.

In case of fire toxic gases can be released.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Sodium tetrafluoroborate 13755-29-8	LD50	> 2.000 mg/kg	rat	not specified
Chromium trioxide 1333-82-0	LD50	52 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Dipotassium hexafluorozirconate 16923-95-8	LD50	> 25 - 200 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Dipotassium hexafluorozirconate 16923-95-8	Acute toxicity estimate (ATE)	51 mg/kg		Expert judgement

**Acute dermal toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Chromium trioxide 1333-82-0	LD50	57 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Chromium trioxide 1333-82-0	Acute toxicity estimate (ATE)	0,186 mg/l	dust/mist	4 h		Expert judgement

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	Category 1B (corrosive)	1 h		OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
Chromium trioxide 1333-82-0	corrosive	24 h	rabbit	not specified

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Chromium trioxide 1333-82-0	corrosive		rabbit	not specified
Dipotassium hexafluorozirconate 16923-95-8	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

No data available.

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances 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

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

No data available.

**STOT-single exposure:**

No data available.

**STOT-repeated exposure:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	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

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

## SECTION 12: Ecological information

### General ecological information:

Do not empty into drains / surface water / ground water.

Inorganic product: Decomposition not affected.

Locally harmful for aquatic and landliving organisms because of low pH and corrosive properties.

### 12.1. Toxicity

#### Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	LC50	144 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	not specified
Chromium trioxide 1333-82-0	LC50	52 mg/l	96 h	Carassius auratus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Chromium trioxide 1333-82-0	NOEC	0,105 mg/l	60 d	Salvelinus namaycush	OECD Guideline 210 (fish early lite stage toxicity test)
Dipotassium hexafluorozirconate 16923-95-8	LC50	172,4 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)

#### Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	EC50	970 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Dipotassium hexafluorozirconate 16923-95-8	EC50	151,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

#### Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	NOEC	100 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

#### Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	EC50	350 mg/l	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Chromium trioxide 1333-82-0	EC50	0,5 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dipotassium hexafluorozirconate 16923-95-8	EC50	10,66 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dipotassium hexafluorozirconate 16923-95-8	EC10	1,63 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sodium tetrafluoroborate 13755-29-8	EC0	35 mg/l	16 h		not specified
Chromium trioxide 1333-82-0	EC0	1 mg/l			not specified

#### 12.2. Persistence and degradability

No data available.

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT / vPvB
Sodium tetrafluoroborate 13755-29-8	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.
Chromium trioxide 1333-82-0	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.
Dipotassium hexafluorozirconate 16923-95-8	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.

#### 12.6. Endocrine disrupting properties

not applicable

#### 12.7. Other adverse effects

If acidic or alkaline products are discharged into wastewater installations care must be taken that the discharged wastewater has a pH in the range pH 6 - 10, as pH variations could cause disorders in wastewater channels and biological sewage treatment plants. The local discharge regulations take precedence.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

060405

**SECTION 14: Transport information****14.1. UN number or ID number**

ADR	1463
RID	1463
ADN	1463
IMDG	1463
IATA	1463

**14.2. UN proper shipping name**

ADR	CHROMIUM TRIOXIDE, ANHYDROUS
RID	CHROMIUM TRIOXIDE, ANHYDROUS
ADN	CHROMIUM TRIOXIDE, ANHYDROUS
IMDG	CHROMIUM TRIOXIDE, ANHYDROUS
IATA	Chromium trioxide, anhydrous

**14.3. Transport hazard class(es)**

ADR	5.1 (6.1, 8)
RID	5.1 (6.1, 8)
ADN	5.1 (6.1, 8)
IMDG	5.1 (6.1, 8)
IATA	5.1 (6.1, 8)

**14.4. Packing group**

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

**14.5. Environmental hazards**

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	not applicable

**14.6. Special precautions for user**

ADR	not applicable
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	Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

**Specific Conditions and Monitoring requirements for authorised uses**

Authorisation valid for

CAS 1333-82-0 Chromium trioxide

Authorisation Numbers :  
Authorised Use

REACH/20/18/17

Surface treatment for applications in the aeronautics and aerospace industries, unrelated to functional chrome plating or functional chrome plating with decorative character, where any of the following key functionalities is necessary for the intended use: corrosion resistance / active corrosion inhibition, chemical resistance, hardness, adhesion promotion (adhesion to subsequent coating or paint), temperature resistance, resistance to embrittlement, wear resistance, surface properties impeding deposition of organisms, layer thickness, flexibility, and resistivity

Monitoring Requirements

The authorisation holders and the downstream users shall implement the following monitoring programmes for chromium (VI):

(a) At least annual air monitoring programmes on occupational exposure to chromium (VI) in accordance with Article 5(5)(e) of Directive 2004/37/EC. The first measurements shall be performed without delay and at the latest on 18 June 2021. Those programmes shall be based on relevant standard methodologies or protocols and be representative of:

- (i) the range of tasks undertaken where exposure to chromium is possible, including tasks involving process and maintenance workers;
- (ii) the operational conditions and risk management measures typical for each of those tasks;
- (iii) the number of workers potentially exposed;

(b) At least annual monitoring programmes for chromium (VI) emissions into wastewater and air from local exhaust ventilation. Those programmes shall be based on relevant standard methodologies or protocols and be representative of the operational conditions and risk management measures (such as waste water treatment systems, gaseous emission abatement techniques) used at the individual sites where relevant measurements are carried out.

The downstream users shall make available to the Agency the information collected from the monitoring programmes as described above, including the contextual information related to each set of measurements, in the format of the template available on the ECHA website

[www.echa.europa.eu/web/guest/support/dossier-submission-tools/reach-it/downstream-user-authorized-use](http://www.echa.europa.eu/web/guest/support/dossier-submission-tools/reach-it/downstream-user-authorized-use), for the first time by 18 December 2021, for transmission to the authorisation holders for the purpose of verifying and validating the exposure scenarios and for the preparation of the review report.

Conditions

The conditions set out in the following paragraphs shall apply to the authorisation bearing numbers REACH/20/18/0 to REACH/20/18/27.

1. The authorisation holders shall make available the specific exposure scenarios to the downstream users to whom this Decision applies by virtue of Article 56(2) of Regulation (EC) No 1907/2006 ('downstream users'), in an updated safety data sheet, at the latest on 18 March 2021. The authorisation holders and the



downstream users shall apply the risk management measures and operational conditions included in the specific exposure scenarios without undue delay.

2. The authorisation holders shall verify and validate the specific exposure scenarios referred to in paragraph 2 at the latest on 18 June 2022 by making an analysis of tasks, using exposure and emission data measured by downstream users and related contextual information and by means of monitoring programmes of occupational exposure and environmental releases measurements, relating to all processes described for the authorised uses. The validated and verified exposure scenarios shall immediately be made available to the downstream users.

3. The information to be made available to downstream users as referred to in paragraphs 1 and 2 shall include detailed guidance on how to select and apply risk management measures. The authorisation holders and the downstream users shall submit that information to the competent authorities of the Member States where the authorised uses take place upon request.

The authorisation bearing numbers REACH/20/18/14 to REACH/20/18/27 shall be subject to the following condition: as regards spraying operations, the downstream users shall apply the risk management measures and operational conditions set out in the Annex. The area in which spraying operations take place shall be restricted either physically by means of barriers and signalling or through the implementation of strict procedures during the activity, which shall continue being applied for a specified time after the spray application has ceased. Workers shall not remove the respiratory protective equipment (RPE) used in spraying operations until they have left the area of application.

The authorisation bearing numbers REACH/20/18/21 to REACH/20/18/27 shall be subject to the condition that the authorisation holders and the downstream users ensure that there is no chromium (VI) above the detectable level present in articles for supply to the general public.

VOC content  
(2010/75/EU) 0 %

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

#### National regulations/information (Germany):

WGK:	WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV) ) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	5.1B
General remarks (DE):	This product is in scope of the German regulation "ChemikalienVerbotsVerordnung"

## SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H271 May cause fire or explosion; strong oxidizer.  
 H301 Toxic if swallowed.  
 H310 Fatal in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H330 Fatal if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H340 May cause genetic defects.  
 H350 May cause cancer.  
 H361f Suspected of damaging fertility.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

### Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**

## Annex - Exposure Scenarios:

Exposure Scenarios for chromium trioxide can be downloaded under the following link:  
<https://mysds.henkel.com/index.html#/appSelection>