



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

Page 1 of 13

BONDERITE M-CR 871 TNP CHROMATE COATING known as  
ALODINE 871 TOUCH-N-PREP COATIN

SDS No. : 223178  
V004.1

Revision: 02.11.2022  
printing date: 09.04.2023

Replaces version from: 03.09.2021

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

#### 1.1. Product identifier

BONDERITE M-CR 871 TNP CHROMATE COATING known as ALODINE 871 TOUCH-N-PREP COATIN

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

Intended use:

Products for Conversion Processing

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

Henkel AG & Co. KGaA  
Henkelstr. 67  
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

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).

#### 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):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:**



**Contains**

Chromium trifluoride

**Signal word:**

Danger

**Hazard statement:**

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement:  
Prevention**

P261 Avoid breathing mist/spray.  
P280 Wear protective gloves/eye protection.

**Precautionary statement:  
Response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor.

**2.3. Other hazards**

None if used properly.  
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**Following substances are present in a concentration  $\geq 0,1\%$  and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**

This mixture does not contain any substances in concentration  $\geq$  the concentration limit 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:**

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Chromium trifluoride 7788-97-8 232-137-9 01-2120754355-52	1- < 5 %	Acute Tox. 3, Oral, H301 Skin Corr. 1, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	M acute = 1	EU OEL
Ammonium hexafluorozirconate 16919-31-6 240-970-4	0,1- < 1 %	Acute Tox. 3, Oral, H301 Acute Tox. 3, Dermal, H311 Skin Corr. 1B, H314 Acute Tox. 3, Inhalation, H331 Eye Dam. 1, H318		EU OEL

**For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.**

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:**

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

IF ON SKIN: Wash with plenty of soap and water.

In case of adverse health effects seek medical advice.

**Eye contact:**

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remain (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

**Ingestion:**

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

### 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:**

All common extinguishing agents are suitable.

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

None known

### 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 self-contained breathing apparatus.

Wear protective equipment.

**Additional information:**

Cool endangered containers with water spray jet.

## SECTION 6: Accidental release measures

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

Avoid contact with skin and eyes.

Keep unprotected persons away.

### 6.2. Environmental precautions

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

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

Dispose of contaminated material as waste according to Section 13.

Neutralize with acid-binding material (e.g. powdered limestone).

Take up with liquid-absorbing material (sand).

Do not use any organic materials (e.g. sawmill waste).

**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
- 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 while working.
- Take off contaminated clothing and wash before reuse.
- The workplace should be equipped with an emergency shower and eye-rinsing facility.

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

Store in sealed original container.  
< 40°C

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

Products for Conversion Processing

**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
Chromium trifluoride 7788-97-8 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECLTV
Chromium trifluoride 7788-97-8 [CHROMIUM METAL, INORGANIC CHROMIUM(II) COMPOUNDS AND INORGANIC CHROMIUM(III) COMPOUNDS (INSOLUBLE)]		2	Time Weighted Average (TWA):	Indicative	ECLTV
Chromium trifluoride 7788-97-8		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
Chromium trifluoride 7788-97-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Chromium trifluoride 7788-97-8		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
Chromium trifluoride 7788-97-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Chromium trifluoride 7788-97-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Chromium trifluoride 7788-97-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
Chromium trifluoride 7788-97-8			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 trifluoride 7788-97-8		2	Exposure limit(s):	1	TRGS 900
Ammonium hexafluorozirconate 16919-31-6 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECLTV
Ammonium hexafluorozirconate 16919-31-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Ammonium hexafluorozirconate 16919-31-6			Skin designation:	Can be absorbed through the skin.	TRGS 900
Ammonium hexafluorozirconate 16919-31-6		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
Ammonium hexafluorozirconate 16919-31-6		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
Ammonium hexafluorozirconate 16919-31-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Ammonium hexafluorozirconate 16919-31-6			Skin designation:	Can be absorbed through the skin.	TRGS 900

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Chromium trifluoride 7788-97-8	aqua (freshwater)		0,010 mg/l				
Chromium trifluoride 7788-97-8	aqua (intermittent releases)		0,010 mg/l				
Chromium trifluoride 7788-97-8	aqua (marine water)		0,010 mg/l				
Chromium trifluoride 7788-97-8	aqua (intermittent releases)		0,001 mg/l				
Chromium trifluoride 7788-97-8	sewage treatment plant (STP)		10 mg/l				
Chromium trifluoride 7788-97-8	Air						no hazard identified
Chromium trifluoride 7788-97-8	oral				5 mg/kg		

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Chromium trifluoride 7788-97-8	Workers	inhalation	Long term exposure - systemic effects		2,4 mg/m3	no hazard identified
Chromium trifluoride 7788-97-8	Workers	dermal	Long term exposure - systemic effects		0,36 mg/kg	no hazard identified
Chromium trifluoride 7788-97-8	General population	oral	Long term exposure - systemic effects		150 µg/kg bw/day	no hazard identified

**Biological Exposure Indices:**

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Chromium trifluoride 7788-97-8	Fluoride	Creatinine in urine	Sampling time: End of shift.	7,0 mg/g	DE BAT		
Chromium trifluoride 7788-97-8	Fluoride	Creatinine in urine	Sampling time: Prior to shift.	4,0 mg/g	DE BAT		
Chromium trifluoride 7788-97-8 [Inorganic fluorine compounds (fluorides)]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		
Ammonium hexafluorozirconate 16919-31-6 [Inorganic fluorine compounds (fluorides)]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		

**8.2. Exposure controls:**

Engineering controls:  
Ensure good ventilation/suction at the workplace.

Respiratory protection:  
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (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): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  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:**

Suitable protective clothing  
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

Physical state	liquid
Delivery form	Currently under determination
Colour	dark green
Odor	slightly, acidic
Melting point	Currently under determination
Initial boiling point	> 100 °C (> 212 °F)
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	> 100 °C (> 212 °F); no method
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH (22 °C (72 °F))	3,8 - 4,2
Viscosity (kinematic)	Currently under determination
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	fully miscible
Partition coefficient: n-octanol/water	Not determined
Vapour pressure	Currently under determination
Density (20 °C (68 °F))	1,000 - 1,010 g/cm <sup>3</sup> no method
Relative vapour density:	Not determined
Particle characteristics	Not applicable Product is a liquid

### 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**

**1.1 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
Chromium trifluoride 7788-97-8	LD50	250 mg/kg	rat	equivalent or similar to OECD Guideline 425 (Acute Oral toxicity)
Ammonium hexafluorozirconate 16919-31-6	LD50	> 50 - < 300 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)

**Acute dermal toxicity:**

No substance data available.

No data available.

**Acute inhalative toxicity:**

No substance data available.

No data available.

**Skin corrosion/irritation:**

No data available.

**Serious eye damage/irritation:**

No data available.

**Respiratory or skin sensitization:**

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
Chromium trifluoride 7788-97-8	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)



**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 trifluoride 7788-97-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Chromium trifluoride 7788-97-8	NOAEL P > 25 mg/kg NOAEL F1 > 25 mg/kg	screening	oral: feed	mouse	EPA OPPTS 870.3800 (Reproduction and Fertility Effects)

**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 trifluoride 7788-97-8		oral: feed	90 d and 2 y 5 d/w	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**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.

**12.1. Toxicity****Toxicity (Fish):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Chromium trifluoride 7788-97-8	LC50	97,7 mg/l	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Chromium trifluoride 7788-97-8	NOEC	0,3 mg/l	72 d	Salmo sp.	OECD Guideline 210 (fish early lite stage toxicity test)
Ammonium hexafluorozirconate 16919-31-6	LC50	> 200 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)

**Toxicity (Daphnia):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Chromium trifluoride 7788-97-8	EC50	35 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ammonium hexafluorozirconate 16919-31-6	EC50	50 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity to aquatic invertebrates**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Chromium trifluoride 7788-97-8	NOEC	1,5 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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Chromium trifluoride 7788-97-8	EC50	0,7 mg/l	96 h	Pseudokirchneriella subcapitata	other guideline:

**Toxicity to microorganisms**

No data available.

**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

Hazardous substances CAS-No.	PBT / vPvB
Chromium trifluoride 7788-97-8	According to Annex XIII of regulation (EC) 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

060199

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.

## SECTION 14: Transport information

- 14.1. UN number or ID number**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 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
VOC content (2010/75/EU)	0 %

### 15.2. Chemical safety assessment

A chemical safety assessment has not 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: 10

## 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:

H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H400 Very toxic to aquatic life.  
H411 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:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (SDSinfo.Adhesive@henkel.com) prior to export to other territories than the European Union.

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.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your\_company.com).

**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 trifluoride can be downloaded under the following link:  
<https://mysds.henkel.com/index.html#/appSelection>