

BAVARIA SCHWEISSTECHNIK GmbH

85716 Unterschleissheim

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1 Product identifier**

BF 4

**1.2 Relevant identified uses of the substance or mixture and uses advised against**
**1.2.1 Relevant uses**

Welding powder

**1.2.2 Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**
**Company**

BAVARIA SCHWEISSTECHNIK GmbH  
 Wiesenweg 23  
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**Address enquiries to**
**Technical information**

bavaria@subarcflux.com

**Safety Data Sheet**

sdb@chemiebuero.de

**1.4 Emergency telephone number**
**Company**

+49 (0)89 - 317 1035 Mo-Fr 8:00 - 16:00

**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]**

No classification.

**2.2 Label elements**
**Hazard pictograms**
**Hazard statements**

none

**Special labelling**

EUH210 Safety data sheet available on request.

**2.3 Other hazards**
**Human health dangers**

Frequent persistent contact with the skin can cause skin irritation.  
 It is essential for pregnant women to avoid inhaling the product and not to let it come in contact with the skin.

**Environmental hazards**

Does not contain any PBT or vPvB substances.

**Other hazards**

Further hazards were not determined with the current level of knowledge.

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### SECTION 3: Composition / Information on ingredients

#### Product-type:

3.2 The product is a mixture.

Range [%]	Substance
10 - 20	Fluorite (CaF <sub>2</sub> ) CAS: 14542-23-5, EINECS/ELINCS: 238-575-7
1 - < 10	Naturally occurring substances: manganese ore CAS: 999999-99-4, EINECS/ELINCS: 310-127-6 GHS/CLP: Eye Irrit. 2: H319
1 - < 3	Trimanganese tetraoxide CAS: 1317-35-7, EINECS/ELINCS: 215-266-5, Reg-No.: 01-2119448167-35-XXXX GHS/CLP: Repr. 2: H361

#### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
For full text of H-statements: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

Take off contaminated clothing and wash before reuse.

##### Inhalation

Ensure supply of fresh air.  
In the event of symptoms seek medical treatment.

##### Skin contact

When in contact with the skin, clean with soap and water.  
Consult a doctor if skin irritation persists.

##### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

##### Ingestion

Seek medical advice immediately.

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

Irritant effects

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

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

##### Extinguishing media that must not be used

Full water jet.

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

Risk of formation of toxic pyrolysis products.

#### 5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

### SECTION 6: Accidental release measures

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

Ensure adequate ventilation.  
Use personal protective clothing.

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## 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

## 6.3 Methods and material for containment and cleaning up

Take up mechanically.  
Avoid raising dust.  
Dispose of absorbed material in accordance within the regulations.

## 6.4 Reference to other sections

See SECTION 8+13

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Provide suitable vacuuming at the processing area.  
Use only in well-ventilated areas.  
Avoid the formation and deposition of dust.

After worktime and before work breaks the affected skin areas must be thoroughly cleaned.  
Use barrier skin cream.  
Do not eat, drink, smoke or take drugs at work.  
Take off contaminated clothing and wash before reuse.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.  
Prevent penetration into the ground.  
Do not store together with food and animal food/diet.  
Keep container tightly closed.

## 7.3 Specific end use(s)

See product use, SECTION 1.2

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## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Ingredients with occupational exposure limits to be monitored (GB)

Substance
Fluorite (CaF <sub>2</sub> )
CAS: 14542-23-5, EINECS/ELINCS: 238-575-7
Long-term exposure: 2,5 mg/m <sup>3</sup> , as F
Trimanganese tetraoxide
CAS: 1317-35-7, EINECS/ELINCS: 215-266-5, Reg-No.: 01-2119448167-35-XXXX
Long-term exposure: 0,2(1) 0,05(2) mg/m <sup>3</sup> , (1) Inhalable fraction. (2) Respirable fraction (as Mn)
Naturally occurring substances: manganese ore
CAS: 999999-99-4, EINECS/ELINCS: 310-127-6
Long-term exposure: 0,2(1) 0,05(2) mg/m <sup>3</sup> , (1) Inhalable fraction. (2) Respirable fraction (as Mn)

#### Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Fluorite (CaF <sub>2</sub> )
CAS: 14542-23-5, EINECS/ELINCS: 238-575-7
Eight hours: 2,5 mg/m <sup>3</sup> , as F
Trimanganese tetraoxide
CAS: 1317-35-7, EINECS/ELINCS: 215-266-5, Reg-No.: 01-2119448167-35-XXXX
Eight hours: 0,2(1) 0,05(2) mg/m <sup>3</sup> , (1) Inhalable fraction. (2) Respirable fraction (as Mn)
Naturally occurring substances: manganese ore
CAS: 999999-99-4, EINECS/ELINCS: 310-127-6
Eight hours: 0,2(1) 0,05(2) mg/m <sup>3</sup> , (1) Inhalable fraction. (2) Respirable fraction (as Mn)

#### DNEL

Substance
Trimanganese tetraoxide, CAS: 1317-35-7
Industrial, dermal, Long-term - systemic effects: 0,004 mg/kg bw/day.
Industrial, inhalative, Acute - local effects: 0,2 mg/m <sup>3</sup> .
Industrial, inhalative, Long-term - local effects: 0,2 mg/m <sup>3</sup> .
Industrial, inhalative, Long-term - systemic effects: 0,2 mg/m <sup>3</sup> .
general population, dermal, Long-term - systemic effects: 0,002 mg/kg bw/day.
general population, inhalative, Long-term - local effects: 0,041 mg/m <sup>3</sup> .
general population, inhalative, Long-term - systemic effects: 0,041 mg/m <sup>3</sup> .

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## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	Safety glasses. (EN 166:2001)
<b>Hand protection</b>	Leather (EN 388). The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	Protective clothing (EN 340)
<b>Other</b>	Avoid contact with eyes and skin. Do not inhale dust. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact during pregnancy/ while nursing.
<b>Respiratory protection</b>	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter P2. (DIN EN 143)
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposition</b>	Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form</b>	granules
<b>Color</b>	dark brown
<b>Odor</b>	odourless
<b>Odour threshold</b>	not applicable
<b>pH-value</b>	not applicable
<b>pH-value [1%]</b>	not applicable
<b>Boiling point [°C]</b>	not applicable
<b>Flash point [°C]</b>	not applicable
<b>Flammability (solid, gas) [°C]</b>	not applicable
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	not applicable
<b>Density [g/ml]</b>	not determined
<b>Bulk density [kg/m<sup>3</sup>]</b>	not determined
<b>Solubility in water</b>	virtually insoluble
<b>Partition coefficient [n-octanol/water]</b>	not applicable
<b>Viscosity</b>	not applicable
<b>Relative vapour density determined in air</b>	not applicable
<b>Evaporation speed</b>	not applicable
<b>Melting point [°C]</b>	not determined
<b>Autoignition temperature [°C]</b>	not applicable
<b>Decomposition temperature [°C]</b>	not applicable

### 9.2 Other information

none

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

No dangerous reactions known if used as directed.

### **10.2 Chemical stability**

Stable under normal ambient conditions (ambient temperature).

### **10.3 Possibility of hazardous reactions**

No hazardous reactions known.

### **10.4 Conditions to avoid**

See SECTION 7

### **10.5 Incompatible materials**

none

### **10.6 Hazardous decomposition products**

No hazardous decomposition products known.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product
ATE-mix, inhalativ (dust), > 5 mg/l 4h.
ATE-mix, dermal, > 2000 mg/kg.
ATE-mix, oral, > 2000 mg/kg.
Substance
Fluorite (CaF <sub>2</sub> ), CAS: 14542-23-5
LD50, oral, Rat: 4250 mg/kg IUCLID.
Trimanganese tetraoxide, CAS: 1317-35-7
LD50, oral, > 2000 mg/kg.
LC50, inhalativ (mist), Rat: 5000 mg/L 4h.

<b>Serious eye damage/irritation</b>	Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Skin corrosion/irritation</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Respiratory or skin sensitisation</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Specific target organ toxicity — single exposure</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Specific target organ toxicity — repeated exposure</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Mutagenicity</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Carcinogenicity</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
<b>Aspiration hazard</b>	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
<b>General remarks</b>	none

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Trimanganese tetraoxide, CAS: 1317-35-7
LC50, (96h), fish: 1000 g/L OECD 203.
EC50, (72h), Algae: > 1000 g/L OECD 201.
NOEC, (96h), fish: 1000 g/L OECD 203.
NOEC, (72h), Algae: 1000 g/L OECD 201.

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## 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	not determined
<b>Behaviour in sewage plant</b>	not determined
<b>Biological degradability</b>	not applicable

## 12.3 Bioaccumulative potential

not applicable

## 12.4 Mobility in soil

not determined

## 12.5 Results of PBT and vPvB assessment

not applicable

## 12.6 Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste material c It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

#### Product

For recycling, consult manufacturer.

#### Waste no. (recommended)

160304

#### Contaminated packaging

Uncontaminated packaging may be taken for recycling.  
Packaging that cannot be cleaned should be disposed of as for product.

#### Waste no. (recommended)

150102

## SECTION 14: Transport information

### 14.1 UN number

**Transport by land according to ADR/RID** not applicable

**Inland navigation (ADN)** not applicable

**Marine transport in accordance with IMDG** not applicable

**Air transport in accordance with IATA** not applicable



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**14.2 UN proper shipping name**

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

**14.4 Packing group**

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

**14.5 Environmental hazards**

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

not applicable

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

<b>EEC-REGULATIONS</b>	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
<b>TRANSPORT-REGULATIONS</b>	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	none
- VOC (2010/75/CE)	0%

**15.2 Chemical safety assessment**

not applicable

**SECTION 16: Other information****16.1 Hazard statements (SECTION 03)**

H361 Suspected of damaging fertility or the unborn child.  
H319 Causes serious eye irritation.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

**16.3 Other information****Classification procedure**

**Modified position** none

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