

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 1 of 9

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

### 1.1. Product identifier

Dentaflux universal soldering flux

#### Further trade names

Article No.: 681-100-00

UFI: 4FVN-ESSG-2NSV-V0GA

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

#### Use of the substance/mixture

Health services.

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

Company name:	DENTAURUM GmbH & Co. KG	
Street:	Turnstr. 31	
Place:	D-75228 Ispringen	
Telephone:	+49 7231 803 0	Telefax: +49 7231 803 295
E-mail:	info@dentaurum.de	
Contact person:	Chemie	
Internet:	www.dentaurum.com	

**1.4. Emergency telephone number:** +497231803-184 7:00-16:15 (Mo-Do) 7:00-13:15 (Fr)  
+497231803-0 16:15-18:00 (Mo-Do) 13:15-18:00 (Fr)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Acute Tox. 4; H302  
Repr. 2; H361d

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

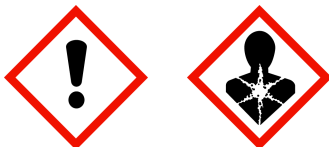
#### Regulation (EC) No 1272/2008

#### Hazard components for labelling

Potassium fluoroborates and potassium fluorohydroxyborates, exothermic reaction products of boron and potassium hydroxides and fluorohydroxides

Signal word: Warning

Pictograms:



#### Hazard statements

H302 Harmful if swallowed.  
H361d Suspected of damaging the unborn child.

#### Precautionary statements

P264 Wash hands thoroughly after handling.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P308+P313 IF exposed or concerned: Get medical advice/attention.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 2 of 9

P405

Store locked up.

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
	Potassium fluoroborates and potassium fluorohydroxyborates, exothermic reaction products of boron and potassium hydroxides and fluorohydroxides			50-80 %
	701-302-1		01-2119980037-35	
	Repr. 2, Acute Tox. 4; H361d H302			

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
	701-302-1	Potassium fluoroborates and potassium fluorohydroxyborates, exothermic reaction products of boron and potassium hydroxides and fluorohydroxides	50-80 %
	oral: ATE = 500 mg/kg		

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### After inhalation

Provide fresh air. Medical treatment necessary.

##### After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

##### After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

##### After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

Do not give fatty oils and milk. none:

Never give anything by mouth to an unconscious person or a person with cramps.

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

No information available.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 3 of 9

#### Unsuitable extinguishing media

none

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

Non-flammable. Fluorhydric acid.

#### **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

#### **Additional information**

Suppress gases/vapours/mists with water spray jet.

### SECTION 6: Accidental release measures

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

##### **General advice**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

#### **6.2. Environmental precautions**

No special environmental measures are necessary. Clean contaminated articles and floor according to the environmental legislation.

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

##### **For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

##### **Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

##### **Advice on protection against fire and explosion**

No special measures are necessary.

##### **Advice on general occupational hygiene**

When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothes. Avoid breathing vapours.

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

##### **Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only.

Provide adequate ventilation as well as local exhaustion at critical locations.

##### **Hints on joint storage**

No special measures are necessary.

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

Health services.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 4 of 9

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

### 8.2. Exposure controls



#### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear eye/face protection.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Recommendation:

Dermatril (740) Single-use gloves. NBR (Nitrile rubber). 0,11 mm

penetration time (maximum wearing period): 480 min.

REF 162-907-00 (7/S), REF 162-908-00 (8/M), REF 162-909-00 (9/L)

##### Skin protection

Use of protective clothing. Use of protective clothing

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state:	Paste	
Colour:	brown	
Odour:	odourless	
Melting point/freezing point:		405 °C
Boiling point or initial boiling point and boiling range:		110 °C
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value (at 20 °C):		5,5
Viscosity / kinematic:		No data available
Water solubility: (at 20 °C)		500 g/L
Solubility in other solvents		
No data available		
Partition coefficient n-octanol/water:		No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 5 of 9

Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	1,6 g/cm <sup>3</sup>
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	not applicable

#### 9.2. Other information

##### Information with regard to physical hazard classes

###### Explosive properties

The product is not: Explosive.

###### Sustaining combustion:

No data available

###### Self-ignition temperature

###### Solid:

No data available

###### Gas:

No data available

###### Oxidizing properties

The product is not: oxidising.

##### Other safety characteristics

###### Evaporation rate:

No data available

###### Solvent separation test:

No data available

###### Solvent content:

No data available

###### Solid content:

No data available

###### Sublimation point:

No data available

###### Softening point:

No data available

###### Pour point:

No data available

###### Viscosity / dynamic:

No data available

###### Flow time:

No data available

##### Further Information

Odour threshold: not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

With strong mineral acids hydrogen fluoride is produced.

### 10.4. Conditions to avoid

none

### 10.5. Incompatible materials

No information available.

### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Harmful if swallowed.

#### ATEmix tested

Dose

Species

Source

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dentaflux universal soldering flux**

Revision date: 03.07.2024

Product code: 681-100

Page 6 of 9

LD50, oral	608 mg/kg	rat
LD50, dermal	>2000 mg/kg	rabbit
LC50, inhalation (dust/mist)	>2,0 mg/l	rat

**ATEmix calculated**

ATE (inhalation vapour) &gt; 20 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
	Potassium fluoroborates and potassium fluorohydroxyborates, exothermic reaction products of boron and potassium hydroxides and fluorohydroxides				
	oral	ATE 500 mg/kg			

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of damaging the unborn child.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

Irritant effect on the skin: non-irritant. Rabbit

Irritant effect on the eye: non-irritant.

**11.2. Information on other hazards**
**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**Other information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

**SECTION 12: Ecological information**
**12.1. Toxicity**

The product is not: Ecotoxic.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**12.4. Mobility in soil**

The product has not been tested.

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

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The product has not been tested.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 7 of 9

#### **12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### **12.7. Other adverse effects**

No information available.

#### **Further information**

Avoid release to the environment. Do not allow to enter into surface water or drains.

### SECTION 13: Disposal considerations

#### **13.1. Waste treatment methods**

##### **Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

##### **List of Wastes Code - used product**

060399 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; wastes not otherwise specified

##### **Contaminated packaging**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Inland waterways transport (ADN)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Marine transport (IMDG)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Air transport (ICAO-TI/IATA-DGR)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

#### **14.6. Special precautions for user**

No information available.

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

not applicable

#### **Other applicable information**

No dangerous good in sense of these transport regulations.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 8 of 9

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to Directive  
2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

#### Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

#### National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

- - non-hazardous to water

### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 2,7,11.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Revision date: 03.07.2024

Product code: 681-100

Page 9 of 9

#### Abbreviations and acronyms

Acute Tox: Acute toxicity  
 Repr: Reproductive toxicity  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%  
 CLP: Classification, labelling and Packaging  
 REACH: Registration, Evaluation and Authorization of Chemicals  
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
 UN: United Nations  
 EC/EEC: European Community/European Economic Community  
 EU: European Union  
 DNEL: Derived No Effect Level  
 DMEL: Derived Minimal Effect Level  
 PNEC: Predicted No Effect Concentration  
 ATE: Acute toxicity estimate  
 LL50: Lethal loading, 50%  
 EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 PBT: persistent, bioaccumulative, toxic  
 vPvB: very persistent, very bioaccumulative  
 M-factor: Multiplying factor  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
 IBC: Intermediate Bulk Container  
 SVHC: Substance of Very High Concern  
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Repr. 2; H361d	Calculation method

#### Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.  
 H361d Suspected of damaging the unborn child.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*