

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dentaflux universal soldering flux**

Print date: 27.01.2017

Product code: 681-100

Page 1 of 8

**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

**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	
Internet:	www.dentaurum.com	

**Further Information**

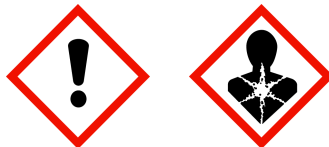
Emergency telephone:		
07:00 - 16:15 (Mo - Do), 07:00 - 13:15 (Fr)	+49 7231 803 184	
16:15 - 18:00 (Mo - Do), 13:15 - 18:00 (Fr)	+49 7231 803 0	

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

Hazard categories:  
 Acute toxicity: Acute Tox. 4  
 Reproductive toxicity: Repr. 2  
 Hazard Statements:  
 Harmful if swallowed.  
 Suspected of damaging the unborn child.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

potassium hydroxofluoroborate  
 Boron

**Signal word:** Warning**Pictograms:****Hazard statements**

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

**Precautionary statements**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 2 of 8

P330 Rinse mouth.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P405 Store locked up.

### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
85392-66-1	potassium hydroxofluoroborate			< 69,2 %
	Repr. 2, Acute Tox. 4; H361d H302			
7440-42-8	Boron			< 1,1 %
	231-151-2			
	Acute Tox. 4, Aquatic Chronic 4; H302 H413			

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### After inhalation

Provide fresh air.

#### After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

#### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

#### After ingestion

Induce vomiting when the affected person is not unconscious. Call a physician immediately.

Do not give fatty oils and milk. none: Alcohol.

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.

#### Unsuitable extinguishing media

none

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

Non-flammable. Special exposure hazards arising from the substance itself, combustion products, resulting

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 3 of 8

gases: 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. Collect contaminated fire extinguishing water separately.  
Do not allow entering drains or surface water.

## **SECTION 6: Accidental release measures**

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

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**

Do not allow to enter into surface water or drains.

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

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Flush away residues with water.

### **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. Avoid dust formation. Do not breathe dust. Provide adequate ventilation.

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

No special measures are necessary.

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

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

Keep container tightly closed. No special measures are necessary.  
The storage class according to TRGS 510 should be indicated.:  
non-combustible liquids that cannot be assigned to any of the above storage classes

#### **Advice on storage compatibility**

No special measures are necessary.

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

Health services.

## **SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 4 of 8

### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
85392-66-1	potassium hydroxofluoroborate			
Worker DNEL, long-term		inhalation	systemic	10,95 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	18,4 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	18,4 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	500,1 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	5,11 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	18,4 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	18,4 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	250,39 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	1,46 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	1,46 mg/kg bw/day

### 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.

#### Protective and hygiene measures

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. When using do not eat or drink. Avoid contact with eyes and skin. When using do not smoke. Do not breathe vapour.

#### Eye/face protection

Wear eye/face protection.

#### Hand protection

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)

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.

#### Skin protection

Wear suitable protective clothing.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 5 of 8

## SECTION 9: Physical and chemical properties

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

Physical state:	Paste
Colour:	brown
Odour:	odourless

#### Test method

pH-Value (at 20 °C):	5,5
----------------------	-----

#### Changes in the physical state

Melting point:	500 °C
Initial boiling point and boiling range:	110 °C
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
Flash point:	No data available
Sustaining combustion:	No data available

#### Flammability

Solid:	No data available
Gas:	No data available

Lower explosion limits:	No data available
Upper explosion limits:	No data available
Ignition temperature:	No data available

#### Auto-ignition temperature

Solid:	No data available
Gas:	No data available

Decomposition temperature:	No data available
----------------------------	-------------------

#### Oxidizing properties

Not oxidizing.

Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	1,4 g/cm <sup>3</sup>
Bulk density:	No data available
Water solubility: (at 20 °C)	500 g/L

#### Solubility in other solvents

No data available

Partition coefficient:	No data available
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Flow time:	No data available
Vapour density:	No data available
Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 6 of 8

#### 9.2. Other information

Solid content:

No data available

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

If product is heated above decomposition temperature toxic vapours may be released.  
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 toxicological effects

##### Acute toxicity

Harmful if swallowed.

##### ATEmix calculated

ATE (oral) 1055,9 mg/kg

CAS No	Chemical name			
	Exposure route	Dose	Species	Source
85392-66-1	potassium hydroxofluoroborate			
	oral	LD50 744 mg/kg	Rat	
7440-42-8	Boron			
	oral	LD50 650 mg/kg	Rat	

##### 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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 7 of 8

#### Aspiration hazard

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

#### Specific effects in experiment on an animal

Irritant effect on the skin: Not an irritant. Rabbit

Irritant effect on the eye: Not an irritant. Rabbit.

## SECTION 12: Ecological information

### 12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name		Dose	[h]   [d]	Species	Source
85392-66-1	potassium hydroxofluoroborate					
	Aquatic toxicity					
	Acute fish toxicity	LC50	750 mg/l	96 h	Brachydanio rerio (zebra-fish)	OECD 203
	Fish toxicity	NOEC	5,6 mg/l	34 d	Brachydanio rerio (zebra-fish)	OECD 210

### 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 product has not been tested.

### 12.6. 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

#### Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. This material and its container must be disposed of as hazardous waste.

#### Waste disposal number of 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

Wash with plenty of water. Completely emptied packages can be recycled.

## SECTION 14: Transport information

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

### 14.6. Special precautions for user

No information available.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dentaflux universal soldering flux

Print date: 27.01.2017

Product code: 681-100

Page 8 of 8

### Other applicable information

No dangerous good in sense of these transport regulations.

## SECTION 15: Regulatory information

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

#### EU regulatory information

#### Additional information

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

#### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils 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 contaminating class (D): 1 - slightly water contaminating

### 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): 2,3,4,7,9,11,14.

### Abbreviations and acronyms

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%

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

H302 Harmful if swallowed.  
H361d Suspected of damaging the unborn child.  
H413 May cause long lasting harmful effects to aquatic life.

### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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