

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Dentaflux universal soldering flux

Revision date: 10.03.2020

Product code: 681-100

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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.

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P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 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	
	GHS Classification			
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

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5.2. Special hazards arising from the substance or mixture

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

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Health services.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL values

CAS No	Substance			
DNEL type	Exposure route	Effect	Value	
85392-66-1	potassium hydroxofluoroborate			
Worker DNEL, long-term	inhalation	systemic	10,95 mg/m ³	
Worker DNEL, long-term	inhalation	local	18,4 mg/m ³	
Worker DNEL, acute	inhalation	local	18,4 mg/m ³	
Worker DNEL, long-term	dermal	systemic	500,1 mg/kg bw/day	
Consumer DNEL, long-term	inhalation	systemic	5,11 mg/m ³	
Consumer DNEL, long-term	inhalation	local	18,4 mg/m ³	
Consumer DNEL, acute	inhalation	local	18,4 mg/m ³	
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 protection/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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Paste	
Colour:	brown	
Odour:	odourless	
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 oxidising.		
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,4 g/cm ³
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

9.2. Other information

Solid content:		No data available
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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	Method
85392-66-1	potassium hydroxofluoroborate				
	oral	LD50 mg/kg	744	Rat	
7440-42-8	Boron				
	oral	LD50 mg/kg	650	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.

Aspiration hazard

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

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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					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
85392-66-1	potassium hydroxofluoroborate					
	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

Disposal recommendations

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.

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

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

Other applicable information

No dangerous good in sense of these transport regulations.

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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 hazard class (D): 1 - slightly 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.

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.)