Safety Data Sheet

according to Regulation (EC) No 1907/2006

Fluxur solder flux

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

1.1. Product identifier

Fluxur solder flux

Product code:

15085

UFI: C4SA-71TF-900Y-DWCX

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

Use of the substance/mixture

Flux for soldering precious and non precious alloys
Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Company name: DFS-DIAMON GmbH
Street: Ländenstr. 1
Place: D-93339 Riedenburg
Telephone: +49 (0)9442 9189 0 Telefax: +49 (0)9442 9189 37
e-mail: info@dfs-diamon.de
Contact person: Armin Aunkofer
e-mail: armin.aunkofer@dfs-diamon.de
Internet: www.dfs-diamon.de

1.4. Emergency telephone number:

24 hour Emergency Contact: +49 (0) 700 24112112 (DFS)
+1 872 5888271

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 3; H301
Skin Corr. 1B; H314
Eye Dam. 1; H318
Repr. 1B; H360FD

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

boric acid
potassium bifluoride; potassium hydrogen difluoride

Signal word: Danger

Pictograms:



Hazard statements

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H360FD	May damage fertility. May damage the unborn child.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves and eye/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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/doctor.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10043-35-3	boric acid			< 60 %
	233-139-2	005-007-00-2		
	Repr. 1B; H360FD			
7789-29-9	potassium bifluoride; potassium hydrogen difluoride			< 20 %
	232-156-2	009-008-00-9		
	Acute Tox. 3, Skin Corr. 1B; H301 H314			

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		
10043-35-3	233-139-2	boric acid	< 60 %
	oral: LD50 = 2600 mg/kg		
7789-29-9	232-156-2	potassium bifluoride; potassium hydrogen difluoride	< 20 %
	oral: LD50 = 52 - 250 mg/kg Skin Corr. 1B; H314: >= 1 - 100 Skin Irrit. 2; H315: >= 0,1 - < 1 Eye Irrit. 2; H319: >= 0,1 - < 1		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice.

After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Where appropriate artificial ventilation. Immediately call a doctor.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids

apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Blood pressure drop.

Organs affected: kidneys, heart, central nervous system.

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

Carbon dioxide (CO2), Water spray jet. In case of major fire and large quantities: Water spray jet, alcohol resistant foam.

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

5.2. Special hazards arising from the substance or mixture

Non-flammable.

In case of fire may be liberated: Pyrolysis products, toxic. Hydrogen fluoride.

Reaction with: Light metal Formation of: Hydrogen. Danger of explosion.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. 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

General advice

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Provide adequate ventilation. Remove persons to safety. Use personal protection equipment.

For emergency responders

Use personal protection equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

Avoid dust formation. Stop leak if safe to do so.

For cleaning up

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

Other information

Do not subject to friction. Clean contaminated articles and floor according to the environmental legislation.

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

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

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

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, drink, smoke, sniff.

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. Store in a cool dry place. Ensure adequate ventilation of the storage area.

Unsuitable container/equipment material: Glass, Aluminium, Tin, Zinc.

Hints on joint storage

Do not store together with: Strong acid, metals, Glass.
Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions

Protect from moisture. Do not dry up the product.

7.3. Specific end use(s)

Flux for soldering precious and non precious alloys
Restricted to professional users.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
10043-35-3	Borate compounds inorganic: boric acid	-	2		TWA (8 h)	
16984-48-8	Fluoride (as F)	-	2.5		TWA (8 h)	

8.2. Exposure controls





Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

Use eye protection according to EN 166.

Hand protection

Wear suitable gloves tested to EN374.

Suitable material: NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber).

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. (acid-resistant)

Respiratory protection

Use appropriate respiratory protection. Filtering Half-face mask (EN 149) Filter material/medium: A1-FFP3

Thermal hazards

No information available.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Paste	
Colour:	white	
Odour:	odourless	
Odour threshold:	not determined	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability		
Solid/liquid:		not determined
Gas:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not applicable
Decomposition temperature:		not determined
pH-Value:		5,3 (50 %)
Viscosity / kinematic:		not determined
Water solubility:		miscible
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure: (at 20 °C)		0,13 hPa
Density (at 20 °C):		1,6 g/cm³
Relative vapour density:		not determined
Particle characteristics:		not applicable

9.2. Other information

Other safety characteristics

No information available.

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

Violent reaction with: Strong acid - Formation of: Hydrogen fluoride (HF)
Reaction with: Light metal - Formation of: Hydrogen. Danger of explosion.
Reacts with: Glass.

10.4. Conditions to avoid

Protect from moisture. Do not dry up the product.

10.5. Incompatible materials

Strong acid, metals, Glass.

10.6. Hazardous decomposition products

In case of fire may be liberated: Pyrolysis products, toxic. Hydrogen fluoride.

SECTION 11: Toxicological information

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

Acute toxicity

Toxic if swallowed.

ATEmix calculated

ATE (oral) 260,1 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10043-35-3	boric acid				
	oral	LD50 2600 mg/kg	Rat	Manufacturer	
7789-29-9	potassium bifluoride; potassium hydrogen difluoride				
	oral	LD50 52 - 250 mg/kg	Rat	Manufacturer	

Irritation and corrosivity

Causes severe skin burns and eye damage.
Causes serious eye damage.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. May damage the unborn child. (boric acid)
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.

Information on likely routes of exposure

Inhalation, oral, Skin contact, Eye contact.

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.

SECTION 12: Ecological information

12.1. Toxicity

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

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
10043-35-3	boric acid					
	Acute fish toxicity	LC50 5600 mg/l	96 h	Gambusia affinis (Mosquito fish)	Manufacturer	

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.

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

Damaging effect on aquatic ecosystems possible due to change in the pH value.

Further information

Avoid release to the environment.

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.

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)

14.1. UN number or ID number: UN 2923

14.2. UN proper shipping name: CORROSIVE SOLID, TOXIC, N.O.S. (potassium bifluoride; potassium hydrogen difluoride)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8+6.1



Classification code: CT2

Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	86
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2923
14.2. UN proper shipping name:	CORROSIVE SOLID, TOXIC, N.O.S. (potassium bifluoride; potassium hydrogen difluoride)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8+6.1



Classification code:	CT2
Special Provisions:	274 802
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2923
14.2. UN proper shipping name:	CORROSIVE SOLID, TOXIC, N.O.S. (POTASSIUM BIFLUORIDE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8+6.1



Marine pollutant:	-
Special Provisions:	223, 274
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	acids

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2923
14.2. UN proper shipping name:	CORROSIVE SOLID, TOXIC, N.O.S. (POTASSIUM BIFLUORIDE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8+6.1



Special Provisions:	A3 A803
Limited quantity Passenger:	5 kg
Passenger LQ:	Y845
Excepted quantity:	E1
IATA-packing instructions - Passenger:	860
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	864
IATA-max. quantity - Cargo:	100 kg

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

Transport as "limited quantity" according to chapter 3.4 ADR/RID

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
boric acid

Restrictions on use (REACH, annex XVII):

Entry 30, Entry 75

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

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): 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): 1,2,4,5,6,7,8,9,10,11,12,13,14,16.

Abbreviations and acronyms

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
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
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
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
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. 3; H301	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Repr. 1B; H360FD	Calculation method

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage 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 hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)