

## Safety Data Sheet

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

**1.1 Product identifier** **INTERFLUX**

**1.2. Relevant identified uses of the substance or mixture and uses advised against**  
 High temperature flux for soldering high melting alloys.

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

Manufacturer/Supplier:	INTERDENT d.o.o.	<i>Production:</i>
Street:	Opekarniška cesta 26	INTERDENT d.o.o.
Country code /Postal code/City:	SI-3000 Celje	Dol 1
Telephone:	+386(0) 425-62-00	SI-3342 Gornji Grad
Fax:	+368(0) 490-62-02	

**1.4 Emergency telephone number**

Emergency phone: 112 (EU)  
+386(0) 425-62-00 (Mon. – Fri.: 8.00 – 16.00)

### **SECTION 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008:

Hazard class	Hazard category	Hazard statements
Acute toxicity (oral)	Hazard Category 3	H301: Toxic if swallowed.
Skin corrosion/irritation	Hazard Category 1B	H314: Causes severe skin burns and eye damage.
Reproductive toxicity	Hazard category 1B	H360FD: May damage fertility. May damage the unborn child.

**2.2 Label elements**

Labelling according to Regulation (EC) No. 1272/2008:

**Hazard pictograms:**



**Signal word: DANGER**

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**Hazard Statement(s):**

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye damage.

H360FD: May damage fertility. May damage the unborn child.

**Precautionary statements:**
*Prevention:*

P201 Obtain special instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection

*Response:*

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.

P308 + P313 IF exposed or concerned: Get medical advice / attention.

P363 Wash contaminated clothing before reuse.

*Storage:*

P405 Store locked up.

*Disposal:*

P501 Dispose of contents/container in accordance with local legislation.

**Component on the label:**

Potassium hydrogen difluoride, Boric acid

**2.3 Other hazards:**

No data available

### SECTION 3: Composition / information on ingredients

#### 3.1 Mixture

Chemical Name	INDEX number EC-Number CAS Nr.	%	Classification according to EC 1272/2008	
			Hazardous class/hazardous category	Hazardous phrases
Boric acid	005-007-00-2 233-139-2 10043-35-3	< 60	Repr. 1B	H360FD

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Potassium hydrogen difluoride	009-008-00-9 232-156-2 7789-29-9	< 20	Acute Tox. 3 * Skin Corr. 1B	H301 H314
Glycerol	200-289-5 56-81-5	< 20	/	/

### **SECTION 4: First Aid Measures**

#### **4.1 Description of first aid measures**

*General:*

Immediately seek for medical attention. Place and transport the victim in lateral position in case of unconsciousness. Remove contaminated clothing. In case of eye contact rinse open lid with water and seek for medical attention. In case of accident and malaise seek for medical attention. (if possible show safety data sheet). In case of respiratory failure, place victim on back and give artificial respiration mouth to nose. Do not give artificial respiration mouth to mouth.

*Inhalation:*

Remove person to fresh air at once. In case of cessation of breathing, carry out artificial respiration. In case of breathing difficulties, administrate oxygen if necessary. Keep person warm. Have person rest. Call in physician immediately.

*Eye contact:*

In the event of contact with the eyes, rinse eyes under running water with eyelids open for at least 15 minutes. Consult an eye doctor.

*Skin Contact:*

In case of contact with the skin, wash off with plenty of water for at least 15 minutes. Apply polyethylene glycol 400. Remove contaminated clothing at once. In any case call in physician. Acid burns that are not treated lead to wounds that are difficult to heal.

*Ingestion:*

Do not induce vomiting. Immediately rinse mouth thoroughly with water. Have person drink plenty of water (at least 0.5 l) in small sips (dilution effect). Obtain medical assistance at once. Rest, warmth, place and transport person in lateral recovery position.

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

Not known.

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

*Hazards:* No specific recommendations.

*Treatment:* No specific recommendations.

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

*Suitable extinguishing media:*

CO<sub>2</sub>, foam, dispersed jet of water; in case of large fire use spray jet or alcohol resistant foam

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

The product itself is not combustible. Hazardous vapors may form due to ambient fire. In the event of fire, hydrogen fluoride may be released. In case of contact with light metals, hydrogen gas may form (risk of explosion).

### **5.3 Advice for firefighters**

Use suitable breathing apparatus that is independent of ambient air. Use protective clothing for fire-fighting so as to avoid skin and eye contact. Stay in the danger zone only with suitable, impervious chemical protection suit.

Other instructions: Avoid penetration of fire-fighting water in surface waters or groundwater.

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

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

Avoid contact with substance. Do not pick up with unprotected hands. Wear protective clothing in accordance with section 8 of this safety data sheet.

### **6.2 Environmental precautions**

Do not allow to enter water/ soil/ sewage system.

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

Avoid contact with substance. Do not pick up with unprotected hands. Remove in well closed and marked containers in accordance with point 13 of safety data sheet.

### **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**

Avoid contact with substance. Do not pick up with unprotected hands. Wear protective clothing in accordance with section 8 of this safety data sheet.

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

Product is not combustible. Keep away from source of ignition – do not smoke. Keep under lock and key. Keep containers tightly sealed and store in a cool, dry and well ventilated place. Unsuitable material for containers/equipment: aluminum, tin or zinc.

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### 7.3 Specific end use(s)

No data available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Council Directive 98/24/EC, Council Directive 80/1107/EEC with all implementations and amendments (Official Gazette RS, No. [100/01](#), [39/05](#), [53/07](#), [102/10](#), [43/11](#) – ZVZD-1, [38/15](#), [78/18](#), [78/19](#))

#### Occupational exposure limits

Not defined for the product.

*Substances:*

#### Boric acid

<b>OEL</b>	Current exposure: 1,0 mg/m <sup>3</sup> (I) Long-term exposure: 0,5 mg/m <sup>3</sup> (I)	
<b>Oral</b> <b>Dermal</b>	<b>DNEL</b>	/
<b>Inhalable</b>		8,3 mg/m <sup>3</sup> (workers-long-term exposure-local effect) 89 mg/m <sup>3</sup> (users-long-term exposure-systemic effect)
	<b>PNEC</b>	2,02 mg/l

\*I – Inhaled fraction

#### Potassium hydrogen difluoride

<b>OEL</b> <b>Fluoride</b> CAS: 16984-48-8	Current exposure: 10 mg/m <sup>3</sup> Long-term exposure: 2,5 mg/m <sup>3</sup> Directive 2000/15/EC	
<b>Oral</b>	<b>DNEL</b>	0,024 mg/kg bw/d (users-long-term exposure-systemic effect) 0,024 mg/kg bw/d (users-acute-local effect)
<b>Dermal</b> <b>Inhalable</b>		/ 3,1 mg/m <sup>3</sup> (workers-long-term exposure-systemic effect) 5,1 mg/m <sup>3</sup> (workers-acute-local effect)

#### Glycerol

<b>OEL</b>	Current exposure: 400 mg/m <sup>3</sup> (I) Long-term exposure: 200 mg/m <sup>3</sup> (I)	
<b>Oral</b> <b>Dermal</b> <b>Inhalable</b>	<b>DNEL</b>	/

\*I – Inhaled fraction

#### 8.2 Exposure controls

Council Directive 98/24/EC, Council Directive 80/1107/EEC with all implementations and amendments (Official Gazette RS, No. [100/01](#), [39/05](#), [53/07](#), [102/10](#), [43/11](#) – ZVZD-1, [38/15](#), [78/18](#), [78/19](#))

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**Personal protection:**
*General safety and hygienic precaution:*

Avoid contact with eyes, skin and clothing. Remove contaminated and/or soaked clothing at once. Keep away from food. Do not eat, drink, smoke or take snuff during work. Wash hands before breaks and at the end of work.

*Respiratory protection:*

Respiratory protection is necessary if there is increased concentration in the air and dust is generated. Type of mask: full mask (EN 136) or half-mask (EN 140). Respiratory protection filter: filter class E2 (acid gases; EN14387) or FFP3 (EN149).

*Hand protection:*

Use solvent-resistant safety gloves made of NBR (nitrile rubber) or butyl (butyl rubber) with at least 10 cm long sleeve (EN 374).

*Eye protection:*

Tightly sealing safety goggles with lenses made of safety glass (EN 166).

*Body protection:*

Wear acid-resistant, impervious protective work clothing. Protective aids for the body are to be selected depending on the concentration and amount of hazardous substance and according to the specific workplace. Pay attention to chemical resistance of the protective aids (suppliers) – EN 16523, EN 13832.

### **SECTION 9: Physical and chemical properties**

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

<b>Form</b>	Pasty, viscous
<b>Colour</b>	white
<b>Odour</b>	odourless
<b>pH</b>	5,3 (50% water solution)
<b>Vapor pressure</b>	0,13 g/m <sup>3</sup> (20°C)
<b>Density</b>	1,6 g/mL (20°C)
<b>Flashpoint</b>	n.a.
<b>Explosion limits</b>	n.a.
<b>Solubility in water</b>	Mix in all ratios

#### **9.2 Other information**

No additional information relevant.

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

#### **10.1 Reactivity:**

Not reactive under normal conditions and proper use.

#### **10.2 Chemical Stability:**

According to Regulation (EC) No. 1907/2006 and (EC) No 1272/2008

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Stable under normal conditions.

### 10.3 Possibility of Hazardous Reactions:

Materials containing glass and silicate are corroded. In case of contact with strong acids: formation of hydrogen fluoride. Pay attention to pungent odor!

### 10.4 Conditions to Avoid:

Do not let the paste to dry out. Materials containing glass and silicate are corroded. In case of contact with strong acids: formation of hydrogen fluoride. Pay attention to pungent odor!

### 10.5 Incompatible Materials:

Dry product is hygroscopic. Incompatible with metals, various plastics, glass, animal/plant fibers.

### 10.6 Hazardous Decomposition Products

No decomposition given proper use. Reaction with strong acids: formation of hydrogen fluoride. Suction-extract vapors and discharge safely. Decomposition products in event of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

The product has a caustic and harmful effect on the mucous membranes of the eyes and the respiratory organs. In the event of skin injuries and mucous membrane contact, toxic and caustic effect must be expected; if swallowed, damage in the gastrointestinal tract and intoxication must be expected. Harmful if swallowed, inhaled or in the case of contact with the skin. The main component, potassium hydrogen difluoride, poses acute or chronic risks to health.

**Chemical name:** Boric acid

**Acute toxicity**

#### Important LD/LC50 sorting values:

<b>Oral</b>	<b>LD50</b>	2660 mg/kg (rat) - RTECS
<b>Dermal</b>	<b>LD50</b>	>2000 mg/kg (rat) - IUCLID
<b>Inhalation</b>	<b>LC50</b>	> 2,03 mg/l (rat) - OECD 403

**Skin corrosion/irritation:** rabbit: slightly irritant (IUCLID)

**Serious eye damage/irritation:** Rabbit: slightly irritant (IUCLID)

**Respiratory or skin sensitization:** Guinea pig: negative

**Germ cell mutagenicity:**

Mutagenicity (test with mammalian cells): chromosomal aberrations: negative (NTP)

Ames test: negative (IUCLID)

**Carcinogenicity:** Data not available.

**Reproductive toxicity:** May damage fertility.

**Teratogenicity:** May damage the unborn child.

**STOT-single exposure:** Not classified as STOT – single exposure.

**STOT-repeated exposure:** Not classified as STOT – repeated exposure.

**Aspiration hazard:** Not classified as aspiration hazard.

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<b>Chemical name: Potassium hydrogen difluoride</b>		
<b>Acute toxicity</b>		
<b>Important LD/LC50 sorting values:</b>		
<b>Oral</b>	<b>LD50</b>	52 - 250 mg/kg (rat)
<b>Dermal</b>	<b>LD50</b>	No data available
<b>Inhalation</b>	<b>LC50</b>	No data available
<p><b>Skin corrosion/irritation:</b> Classified.</p> <p><b>Serious eye damage/irritation:</b> No data available</p> <p><b>Respiratory or skin sensitization:</b> No data available.</p> <p><b>Germ cell mutagenicity:</b> Ames test: negative (OECD 471)</p> <p><b>Carcinogenicity:</b> Not classified.</p> <p><b>Reproductive toxicity:</b> General toxicity parents: NOAEL 250 ppm; general toxicity F1: NOAEL 250 ppm (OECD 416)</p> <p><b>STOT-single exposure:</b> Not classified</p> <p><b>STOT-repeated exposure:</b> Not classified.</p> <p><b>Aspiration hazard:</b> No data available.</p>		
<b>Chemical name: Glycerol</b>		
<b>Acute toxicity</b>		
<b>Important LD/LC50 sorting values:</b>		
<b>Oral</b>	<b>LD50</b>	> 12600 mg/kg (rat)
<b>Dermal</b>	<b>LD50</b>	>18700 mg/kg (rabbit)
<b>Inhalation</b>		Slightly irritant
<p><b>Skin corrosion/irritation:</b> slightly irritant</p> <p><b>Serious eye damage/irritation:</b> slightly irritant</p> <p><b>Respiratory or skin sensitization:</b> no data available.</p> <p><b>Germ cell mutagenicity:</b> No data available.</p> <p><b>Carcinogenicity:</b> Not classified</p> <p><b>Reproductive toxicity:</b> Not classified.</p> <p><b>STOT-single exposure:</b> Not classified</p> <p><b>STOT-repeated exposure:</b> Not classified</p> <p><b>Aspiration hazard:</b> No data available</p> <p><b>Further information:</b>  <i>After inhalation</i>                      It may cause irritation to mucous membrane and may be harmful when breathing.</p> <p><i>Skin contact:</i>                      It may cause irritation and might be harmful in case of penetration through skin.</p> <p><i>Eye contact</i>                      Causes acid burns. Risk of corneal clouding. Risk of blindness!</p> <p><i>Swallowing</i></p>		



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Causes acid burns and is harmful if swallowed in the mouth, throat, esophagus and gastrointestinal tract. Tissue damage. Risk of perforation for esophagus and stomach. In the event of intake of large amounts of potassium ions, risk of reduction in blood pressure, coma and death.

### *Resorption*

Heat sensation, spasms, coughing, headache, cardiac dysrhythmia, shock, unconsciousness. If allowed to react for a longer period: damage to bone marrow. For soluble inorganic fluorides the following generally applies: Contact with eyes, skin and mucous membranes leads to irritation or even acid burns. Symptoms of excessive exposure to fluorides are salivation, nausea, vomiting, abdominal pains, fever, shortness of breath and cessation of breathing. Systemic effect of fluoride ions: reduction of blood serum-calcium level with risk of fatal hypocalcaemia, excitation, spasms, cardiovascular disorders, central nervous system disorders. Exposure to fluoride dust, vapors or mist for a longer period leads to perforation of the nasal septum. Chronic effects include excessive calcification of the bones, ligaments and tendons.

### *Organs affected*

Kidneys, heart, bones, nerves, gastrointestinal tract, teeth

### *Further information*

The product must be handled with special care.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Harmful effect on water organisms. Toxic effect on fish and plankton. Harmful effect due to pH shift. In spite of dilution, still forms caustic mixtures with water. Does not cause any biological oxygen depletion. Neutralization possible in treatment plants. Hazardous for drinking water. Do not allow to enter waterbodies, sewer system or soil!

#### *Biological effects – data for potassium hydrogen difluoride*

Toxicity: fish

NOEC (Oncorhynchus mykiss, 21 d): 4 mg/l

Toxicity: Daphnia magna

NOEC (Daphnia magna, 21 d): 3,7 mg/l

#### *Biological effects – data for boric acid (ECOTOX)*

Toxicity - fish

LC50 (Oncorhynchus mykiss, 96 h) = 50 - 100 mg/l

Toxicity water flea

EC50 (Daphnia magna, 48 h) = 133 mg/l

### **12.2 Persistence and Degradability**

#### **Biodegradation:**

Methods for determination of biodegradability are not applicable for inorganic substances.

### **12.3 Bioaccumulative Potential**

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No data available.

### 12.4 Mobility in Soil

No data available.

### 12.5 Results of PBT and vPvB assessment

No data available.

### 12.6 Other Adverse Effects

No data available.

## **SECTION 13: Disposal consideration**

### **13.1 Waste treatment methods**

(Directive 2008/98/EC, Official Gazette RS 37/15, 69/15).

*Methods of disposal:* Dispose in accordance with Statute about handling with waste.

*Disposal removing:* Store disposal separately. Because of possible pollution, remove as industrial waste or hazardous waste

*Polluted packaging:* Store disposal separately. Because of possible pollution, remove as industrial waste or hazardous

#### *Proposals for waste determination:*

Waste group 06 01 Wastes from production, preparation, distribution and use of acids

Waste group 11 01 Wastes from chemical surface treatment and coating of metals and other materials (e.g. electroplating, galvanized coating, pickling, etching, phosphatizing, alkaline degreasing and electrolytic oxidation)

Waste key Waste designation

06 01 06\* other acids

11 01 05\* acid pickling solutions

11 01 06\* acids not otherwise specified

11 01 98\* other wastes that contain hazardous substances

#### *Packaging*

Disposal according to the provisions of the waste law. Packaging contaminated with the product is considered to be waste requiring special monitoring.

Waste key Waste designation

15 01 10\* Packaging that contains residues of hazardous substances or is contaminated with hazardous substances

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<b>SECTION 14: Transport Information</b>				
	<b>ADR/RID</b>	<b>ADNR</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	UN3260			
<b>14.2 UN proper shipping name</b>	Corrosive solid, acidic, inorganic, n.o.s. (potassium hydrogen difluoride)			
<b>14.3 Transport hazard class(es)</b>				
Class	8			
Classification code	C2	C2	/	/
Hazard label	8	8	/	/
Hazard identification	80	/	/	/
Tunnel restriction code	(E)	/	/	/
<b>14.4 Packing group</b>	III			
<b>14.5 Environmental hazards</b>	No environmental hazard			
<b>14.6 Special precautions for user</b>	Product is pasty.			
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	No data available			

### **SECTION 15: Regulatory information**

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

Product is classified in accordance with Directive EC 1907/2006 and 1272/2008.

#### **15.2 Chemical safety assessment**

Chemical safety assessment for Boric acid and Potassium hydrogen difluoride.

### **SECTION 16: Other information**

#### *Revision:*

Version 07 issued on January 2020 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008 with all amendments.

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### *Legend of abbreviations:*

ADR – European agreement concerning the international carriage of dangerous goods by road

CAS – Chemical Abstracts Service

CLP – Classification, Labeling and Packaging

CMR – Carcinogenic, Mutagenic or toxic for Reproduction

DNEL - Derived no-effect level

EC<sub>50</sub>: Half maximal effective concentration

EmS – Emergency Schedule

GHS – Globally Harmonised System of Classification and Labeling of Chemicals

IATA – International Air Transport Association

IUCLID – International Uniform Chemical Information Database

IMDG – International Maritime Dangerous Goods Code

LC<sub>50</sub>: Lethal concentration, 50%

LD<sub>50</sub>: Median lethal dose; the dose causing 50% lethality

MARPOL – International convention for the prevention of pollution from ships

NOEC - No-observed-effect concentration

NOAEL – No-observed-adverse-effect level

NTP- National Toxicology Program

OEL - Occupational exposure limit

OECD - Organisation for Economic Co-operation and Development

PBT – Persistent Bioaccumulative Toxic

PNEC: Predicted no-effect concentration

Ppm – parts per million

REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals

RTECS – The Registry of Toxic Effects of Chemical Substances

RID – Regulation concerning the international carriage of dangerous goods by rail

vPvB – very Persistent and very Bioaccumulative

### *References:*

Safety data sheets of the substances for the product

Directive EC 1907/2006 and 1272/2008 with all amendments

Council Directive 98/24/EC, Council Directive 80/ 1107/EEC with all implementations and amendments (Official Gazette RS, No. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18, 78/19);

Directive 2008/98/EC with all amendments, Official Gazette RS 37/15, 69/15.

Martindale: The Extra Pharmacopoeia, 13. edition

European convention about international transport of hazardous material ADR

### *Classification method:*

Classification of mixtures based on ingredients for the mixture (Data available for all ingredients). The ATE of the mixture (oral) is determined by calculation from the ATE values of relevant ingredients listed in section 11. Relevant substance is potassium hydrogen difluoride with lower LD<sub>50</sub> = 52 mg/kg (rat, oral). ATE<sub>mix</sub> = 274 (Acute toxicity (oral), category 3).

### *Disclaimer of expressed and implied warranties:*

Safety data sheet give information about previous knowledge about the product, actually about raw material in product. It is guideline for safe using, handling, disposing, storage and transport and cannot be used as a guarantee.