

# Safety Data Sheet

## DELVA - LOT

### POWDER FLUX

Product No.: PGB\_0023

In accordance with Regulation (EC) No. 1907/2006



#### Section 01: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product Identifier

DELVA - LOT POWDER FLUX

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

Flux

##### 1.3. Details of the importer

Company: K. TZANOS S.A

Address: Nafpliou & Daskalogianni

Region: Metamorfosis, Attica

Phone: +30 210 28 28 603

Post Code: 144 52

Fax: +30 210 28 19 210

##### 1.4. Emergency telephone number: +30 210 77 93 777 (Available 24h a day)

#### Section 02: Hazards Identification

##### 2.1. Classification of the Substance or Mixture

Regulation (EC) No. 1272/2008

Hazard Class	
Acute Toxicity	Acute Tox. 4
Skin Corrosion/Irritation	Skin Corr. 1A
Serious Eye Damage/Eye Damage	Eye Dam. 1
Reproductive Toxicity	Repr. 1B

##### Hazard Statements:

- Harmful if swallowed.
- Causes severe skin burns and eye damage.
- Suspected of causing genetic defects.
- Suspected of causing metal fume fever through vapors and fume inhaling formed during welding/gluing. Symptoms may appear after 4 to 12 hours (headache, dizziness, dryness, cough, malaise, and fever).
- Prolonged inhalation of vapors/fumes formed during welding/gluing may cause respiratory tract irritation.

##### 2.2. Label Elements

Labelling according to Regulation (EC) No 1272/2008

##### Ingredients Determining Hazard:

- Boric Acid
- Potassium hydrogen difluoride
- Potassium hydroxide

Signal Word: Danger Pictograms:



Hazard Statements	
<b>H302</b>	Toxic if swallowed, in contact with skin or if inhaled.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H360FD</b>	Suspected of damaging fertility or the unborn child.
Precautionary Statements	
<b>P501</b>	Dispose of contents and container in accordance with local and national regulations.
<b>P314</b>	Get medical advice/attention if you feel unwell.
<b>P285</b>	In case of inadequate ventilation wear respiratory protection.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P260</b>	Do not breathe dust/fumes/gas/mist/vapours/spray.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
Supplemental statements for certain mixtures	
<b>EUH032</b>	Contact with acids liberates very toxic gas.

### 2.3. Other Hazards

In welding and soldering processes, metal splashes may be produced, the molten metal and UV / IR can cause burns or fire. Metal vapors and fumes formed during welding and soldering are suspected of causing cancer.

## Section 03: Composition/ Information on Ingredients

### 3.2. Μείγματα

Mixtures						
CAS No.	Name of Substance	Weight	EC No.	Index No	REACH No.	GHS Classification
10043-35-3	<b>Boric Acid</b>	10-50%	233-139-2	005-007-00-2	01-2119486683-25	Repr. 1B; H360FD
7789-29-9	<b>Potassium Difluoride Hydrogen</b>	10-50%		232-156-2	01-2119960644-32	Acute Tox. 3, Skin Corr. 1B; H301 H314
14075-53-7	<b>Tetrafluoroborate Potassium</b>	10-50%	237-928-2		01-2119968922-24	
1310-58-3	<b>Potassium hydroxide</b>	5-10%	215-181-3		01-2119487136-33	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A; H290 H302 H314
12045-78-2	<b>Tetraboron disodium</b>	0,1-5%	215-575-5		01-2119970730-37	Repr. 2; H361fd

Full text of H-phrases and EUH-phrases: see Section 16, page 11

## Section 04: First Aid Measures

### 4.1. Description of first aid measures

- **Inhalation:**  
Move to fresh air. Seek medical advice if necessary.
- **Skin Contact:**  
In case of contact wash off immediately with plenty of water. Seek medical advice if necessary.
- **Eye Contact:**  
Rinse immediately with plenty of water. Seek medical advice.
- **Ingestion:**  
Rinse mouth. As fast as possible, enrich a Calcium Chloride solution and transfer to clinic. In case of ingestion seek medical help immediately and show the label of this product.

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

No available data

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

Symptomatic treatment

## Section 05: Firefighting Measures

### 5.1. Extinguishing media

Suitable extinguishing media

Use media appropriate for the surrounding fire, depending on the stored products.

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

In case of overheating in high temperatures and, in the event of moisture protection, Hydrofluoric Acid (HF) may be formed.

### 5.3. Advice for firefighters

Self-contained breathing apparatus and protective clothing should be worn.

## Section 06: Accidental Release Measures

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

In the event of vapours, use the breathing apparatus.

Provide adequate ventilation.

Use personal protective clothing.

### 6.2. Environmental precautions

Keep away from drains and ground water.

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

Collect and place in suitable waste disposal containers.

### 6.4. Reference to other sections

Refer to Sections 7 and 8 for personal protective equipment and Section 13 for disposal information.

## Section 07: Handling and Storage

### 7.1. Precautions for safe handling

Use with enough ventilation.  
Avoid contact with eyes and skin.  
Do not inhale vapor/mist.

#### Additional facts

Do not eat, drink or smoke during use.

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

#### Requirements for store rooms and containers

Keep the container dry and tightly closed.

#### Instructions for storage in common areas

Keep away from food and drink.

#### Further information on storage conditions

Keep original product package tightly closed.

### 7.3. Specific end use(s)

Flux

## Section 08: Exposure Controls/Personal Protection

### 8.1. Control Parameters

Indicative Occupational exposure Limit Value						
CAS No.	Chemical Agent	ppm	mg/m <sup>3</sup>	Fibers/cm <sup>3</sup>	Category	Source
1310-58-3	<b>Υδροξείδιο του Καλίου</b>	-	2		8 hours	
					15 minutes	
16984-48-8	<b>Potassium Hydroxide</b>	-	2,5		8 hours	

#### Additional Notes Limit Values

Names with OLD no longer have any legal force. These are limit values in the workplace, which have been removed from the list. These values were retained as additional information for a hazard evaluation.

### 8.2. Exposure Controls

#### Appropriate Engineering Controls

Good general ventilation is mandatory to control exposure to airborne contaminants.

#### Hygiene Measures

Do not smoke, eat or drink while handling chemical products.  
Wash hands and face thoroughly after handling chemical products.  
Do not smoke, eat or drink while using chemical products.  
Avoid contact with skin, eyes and clothing.

#### Eye/ Face Protection

Use safety goggle with side protection (EN 166).



### Hand Protection

Wear soldering protective gloves (DIN 4841-4).

Information on glove material [type, thickness, penetration time/put on time, wetting intensity]: Butyl rubber, 0.7 mm, 480min., 60min, e.g. <Butoject> protective gloves by Firma company [www.kcl.de](http://www.kcl.de)

Different requirements may arise depending on the use. Thus, the protective gloves supplier suggestions should be taken into account..

This recommendation is based solely on chemical compatibility and on EN 374 testing under laboratory conditions.

### Respiratory Protection

On case of insufficient ventilation wear respiratory protection mask.

Particulate filter device ABEK/P3.

## Section 09: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties	
<b>Physical state</b>	Solid
<b>Colour</b>	Depends on each product
<b>Odour</b>	Odourless
<b>pH Value (at 20°C)</b>	Not applicable
Information on Changes in Physical Condition	
<b>Melting/Freezing Point</b>	Not applicable
<b>Initial Boiling Point and Boiling Range</b>	Not applicable
<b>Decomposition Temperature</b>	Not available
<b>Flash Point</b>	Not applicable
Flammability	
<b>Solid</b>	Not applicable
<b>Gas</b>	Not applicable
Explosive Properties	
<b>Not Available</b>	
<b>Lower Explosion Limits</b>	Not available
<b>Upper Explosion Limits</b>	Not available
<b>Flammability Temperature</b>	Not applicable
Auto-ignition Temperature	
<b>Solid</b>	Not applicable
<b>Gas</b>	Not applicable
Oxidising Properties	
<b>Not Available</b>	
<b>Vapor Pressure</b>	Not available
<b>Density</b>	Not available
<b>Solubility(ies) (at 20° C)</b>	Soluble
<b>Partition Coefficient</b>	Not available
<b>Viscosity</b>	Not applicable

### 9.2. Other Information

No data available.

## Section 10: Stability and Reactivity

### 10.1. Reactivity

When in contact with acids, toxic gases are released.

### 10.2. Chemical Stability

The product is stable.

### 10.3. Possibility of Hazardous Reactions

When in contact with acids, toxic fumes are released.

### 10.4. Conditions to Avoid

In case of overheating in high temperatures and, in the event of moisture protection, Hydrofluoric Acid (HF) may be formed.

### 10.5. Incompatible Materials

Strong acids and oxidizers.

### 10.6. Hazardous Decomposition Products

In case of overheating in high temperatures and, in the event of moisture protection, Hydrofluoric Acid (HF) may be formed.

## Section 11: Toxicological Information

### 11.1. Information on Toxicological Effects

- Acute toxicity**

Harmful if swallowed.

Suspected of causing metal fume fever through vapors and fume inhaling formed during welding/gluing. Symptoms may appear after 4 to 12 hours (headache, dizziness, dryness, cough, malaise, and fever).

Risk of fluoridation.

CAS No.	Ingredient Name	Route of Exposure	Dose	Species	Source	Method
7789-29-9	<b>Potassium Hydrogen Difluoride</b>	Oral	ATE 100 mg/kg			
1310-58-3	<b>Potassium Hydroxide</b>	Oral	LD50 333 mg/kg	Απουπαίος		

- Irritation/ Corrosivity**

Serious eye damage and skin burns.

Chemical burns.

- Sensitizing Effects**

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

- Carcinogenicity, Germ cell mutagenicity, Reproductive toxicity**

Suspected of damaging fertility or the unborn child (boric acid).

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

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

- Specific target organ toxicity - single exposure**

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

- Specific target organ toxicity - repeated exposure**

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

- **Aspiration Hazard**  
Based on the available data, the classification criteria are not met..
- **Other Information**  
Classification conducted in accordance to EC 1272/2008.

## Section 12: Ecological Information

### 12.2. Persistence and Degradability

Data not available

### 12.3. Bioaccumulative Potential

Data not available

### 12.4. Mobility in Soil

Data not available

### 12.5. Results of PBT and vPvB assessment

Data not available

### 12.6. Other Adverse Effect

Data not available

**Other Information:** The product must not reach the aquifer or surface water. Slightly dangerous for water.

## Section 13: Disposal Considerations

### 13.1. Waste Treatment Methods

#### Methods of Disposal

Recycling against discharge.

Dispose of dust and particulates to sewer should be fully compliant with the relevant requirements.

#### Waste disposal number of waste from residues/unused products

**160303** WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off -specification batches and unused products; inorganic wastes containing hazardous substances; hazardous waste

#### Waste disposal number of product residues


**150202** WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; absorbents, filter materials, wiping cloths and protective clothing; absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances; classified as hazardous waste.

#### Contaminated packaging


**150102** WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; (including specially collected urban waste packaging); plastic packaging

## Section 14: Transport Information

### Land Transport (ADR/RID)


<b>14.1. UN Number</b>	UN 1759
<b>14.2. UN proper shipping name</b>	CORROSIVE SOLID, N.O.S. (Potassium Difluoride Hydrogen, Potassium Hydroxide)
<b>14.3. Transport Hazard Class(es)</b>	8
<b>14.4. Packing Group</b>	II
<b>Labels</b>	8 
<b>Classification Code</b>	C10
<b>Limited Quantities (LQ)</b>	1 kg
<b>Transport Category</b>	2
<b>Hazard Identification No</b>	80
<b>Tunnel Restriction Code</b>	E

### Inland Waterways Transport (ADN)


<b>14.1. UN Number</b>	UN 1759
<b>14.2. UN proper shipping name</b>	CORROSIVE SOLID, N.O.S. (Potassium Difluoride Hydrogen, Potassium Hydroxide)
<b>14.3. Transport Hazard Class(es)</b>	8
<b>14.4. Packing Group</b>	II
<b>Labels</b>	8 
<b>Classification Code</b>	C10
<b>Special Provisions</b>	274
<b>Limited Quantities (LQ)</b>	1 kg



### Marine Transport (IMDG)

<b>14.1. UN Number</b>	UN 1759
<b>14.2. UN proper shipping name</b>	CORROSIVE SOLID, N.O.S. (Potassium Difluoride Hydrogen, Potassium Hydroxide)
<b>14.3. Transport Hazard Class(es)</b>	8
<b>14.4. Packing Group</b>	II
<b>Labels</b>	8 
<b>Special Provisions</b>	274
<b>Limited Quantities (LQ)</b>	1 kg
<b>EmS</b>	F-A, S-B

### Air Transport (ICAO-TI/IATA-DGR)

<b>14.1. UN Number</b>	UN 1759
<b>14.2. UN proper shipping name</b>	CORROSIVE SOLID, N.O.S. (Potassium Difluoride Hydrogen, Potassium Hydroxide)
<b>14.3. Transport Hazard Class(es)</b>	8
<b>14.4. Packing Group</b>	II
<b>Labels</b>	8 
<b>Special Provisions</b>	A3 A803
<b>Limited Quantities (LQ) (passenger aircraft)</b>	5 kg
<b>IATA-Packing Instruction (passenger aircraft)</b>	859
<b>IATA-Max. Quantities (passenger aircraft)</b>	15 kg
<b>IATA-Packing Instruction (cargo aircraft)</b>	863
<b>IATA-Max. Quantities (cargo aircraft)</b>	50 kg

## Section 15: Regulatory Information

### 15.1. Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

#### EU Regulatory Provisions Information

Accreditations (REACH, Annex XIV):

Substances of very high concern, SVHC (REACH, Article 59):

- Boric acid

Restrictions (REACH, Annex XVII):

No 30: boric acid

#### National Regulations

Additional Information

Welding inspection supervision in accordance to the basic principles of BG: G39.

### 15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## Section 16: Other Information

### Changes

REV. 3.0: Section 03: Composition/Information on Ingredients: REACH Registration No. (Page 2)

#### Abbreviations and Acronyms

<b>ADR</b>	Accord européen relatif au transport international des marchandises Dangereuses par Route
<b>RID</b>	Règlement concernant le transport international ferroviaire de marchandises dangereuses
<b>ADN</b>	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
<b>IMDG</b>	International Maritime Code for Dangerous Goods
<b>IATA/ICAO</b>	International Air Transport Association / International Civil Aviation Organization
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships

<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>REACH</b>	Registration, Evaluation, Authorization and Restriction of Chemicals
<b>CAS</b>	Chemical Abstract Service
<b>EN</b>	European Norm
<b>ISO</b>	International Organization for Standardization
<b>DIN</b>	Deutsche Industrie Norm
<b>PBT</b>	Persistent Bioaccumulative and Toxic

<b>LD</b>	Lethal dose
<b>LC</b>	Lethal concentration
<b>EC</b>	Effect concentration
<b>IC</b>	Median immobilisation concentration or median inhibitory concentration

**List of relevant phrases for H & EUH (code and full text)**

<b>H290</b>	May be corrosive to metals.
<b>H301</b>	Toxic if swallowed.
<b>H302</b>	Harmful if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H360FD</b>	May damage fertility. May damage the unborn child.
<b>H361fd</b>	Suspected for fertility damage. Suspected for damaging the unborn child.
<b>EUH032</b>	Contact with acids liberates very toxic gas.

**Other Information**

The classification was performed according to the calculation method of Regulation (EC) No 1272/2008.

Items in codes 4 to 8 and 10 to 12 do not refer in part to the use and utilization of the product (see usage / product information), but into the release of larger quantities in cases of accidents and other anomalies.

The data describe only the safety requirements of the product / products and are based on our present-day knowledge.

The special features of the delivery can be informed from the technical data sheets of the products.

**Bibliography::**

Kraume, Zober: Arbeitssicherheit und Gesundheitsschutz in der Schweißtechnik (Working safety and health protection in welding).

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

The above information describes exclusively the safety requirements of the product(s) and is based on our present-day knowledge and the relevant European and National Legislations. It does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. This is only a description on safety requirements and conditions. The working methods and conditions or the users of this product are beyond our knowledge and control, and it is always the end user's responsibility to take all the necessary measures to comply with the legal requirements regarding safe handling, storage, processing and disposal of chemical products. The information cannot be transferred to other products and applies only to this product which should not be used for purposes other than those specified.