

# METALLI

## SAFETY DATASHEET – TENACITY™ No. 125 FLUX PASTE

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

**Product Identifier**  
**Trade name of designation**  
of the mixture

**Tenacity™ No. 125 Flux Paste**

**Description and application of the substance/preparation:**

A white aqueous paste brazing flux intended for use with high temperature, base metal brazing filler metals that have brazing temperatures in the range 800 to 1100°C.

**Product category:**

PC38 Welding and soldering products (with flux coatings or flux ores), flux products.

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

**Company name** Metalli A/S  
Nyholms alle 46  
2610 Rødovre  
Denmark  
**E-mail** [info@metalli.dk](mailto:info@metalli.dk)  
**Telephone number** +45 3670 0544

### SECTION 2: Compositional information

Classification according to directive 67/548/EEC or directive 1999/45/EC



**T, Toxic**

R60 May impair fertility.  
R61 May cause harm to the unborn child.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed

As supplied the product will be irritating to the eyes and skin contact may cause moderate irritation. If the skin is broken immediate irritation will occur on contact.

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The main hazards associated with this product arise when it is used as a brazing flux. On heating it will fume slightly and with overheating the flux fumes will increase. The fume produced may include hydrogen fluoride and boron trifluoride, which can cause irritation of the nasal passages, eyes and throat.

To minimise the evolution of flux fume always use the product with brazing filler metals that have liquidus temperatures of no greater than 1200°C.

Severe long-term exposure to flux fume may result in fluorosis. In acute cases there is a danger of pulmonary oedema although this occurrence could also result from inhalation of brazing filler metal fume or torch gases. Inhalation of the fume will be irritating to the nose and throat and will cause smarting of the eyes.

### SECTION 3: Hazards Identification

The product identified is a mixture of the substances identified below with other non-hazardous additions.

Substance	CAS no.	EINECS No.	CLP-Classification	DPD-Classification	% Concentration
Boric acid	10043-35-3	233-1039-2	 GHS08 Dgr. H360FD, Repr. 1B	 T, Repr. Cat. 2, R60, R61	25 to 50
Potassium fluorosilicate	16871-90-2	240-896-2	 GHS06, H331, H311, H301, Acute tox 3	 T, R23/24/25	2.5 to 25
Potassium tetraborate	1332-77-0	215-575-5	 GHS08, H360	 Xn, R62, R63, Repr. Cat 3	2.5 to 25
Disodium tetraborate decahydrate	1303-96-4	215-540-4	 GHS08 Dgr. , H360FD	 T, Repr. Cat.2, R60, R61  Xi, R36	2.5 to 25

**Note:** This product contains two substances, boric acid and sodium tetraborate, listed as “Substances of very high concern” (SVHC) under REACH above the threshold limit of  $\geq 0.1\%$ . Both boric acid and sodium tetraborate decahydrate are classified as category 2 reproductive toxins and the following risk phrases are relevant.

- R60:** May impair fertility,  
**R61:** May cause harm to the unborn child.

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Potassium tetraborate is classified as category 3 reproductive toxin and the following Risk phrases are relevant:

- R62:** possible risk of impaired fertility  
**R63:** possible risk of harm to the unborn child.

The wording for the risk phrases used above can be found in section 16.

### SECTION 4: First aid measures

<b>Inhalation</b>	Remove from source of exposure and allow to rest in fresh air. In acute cases apply artificial respiration and if necessary summon medical aid.
<b>Skin contact</b>	Remove any contaminated clothing and wash skin immediately with soap and water. Seek medical attention if sores develop. Launder clothing before re-use.
<b>Eye contact</b>	Irrigate with water or isotonic saline for up to 20 minutes. Seek medical attention if there is any hint of eye damage.
<b>Ingestion</b>	Rise mouth water & give patient water or milk mixed with calcium carbonate (chalk) to drink. Do not induce vomiting. Summon medical aid.

### SECTION 5: Fire fighting measures

Non flammable. Use full protection with breathing apparatus if involved in a fire as harmful fumes may be evolved.

Use any extinguishing medium appropriate for surrounding fire.

### SECTION 6: Accidental release measures

Scrape up as much of the spill as possible and place collected product into a suitable container for disposal. Wash contaminated area with soap and water and mop up as much as is possible. Use absorbent material to mop up remaining diluted product. Place mopped up product and any absorbent material into a suitable container for disposal. Avoid contact with skin or eyes. Use personal protective equipment during clean-up operation, gloves, eye protection etc. as considered appropriate to the size and nature of the release.

If product is likely to enter watercourse or sewerage systems, inform necessary authorities. Product should be prevented from entering sewers, drainage systems and surface or groundwater. Dispose of all collected product /absorbent material as directed in section 13.

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### SECTION 7: Handling and storage

#### Handling

Use only under conditions of good local ventilation or efficient extraction systems and do not inhale fumes evolved during use.

Avoid contact with skin and eyes. Do not eat, drink, smoke or apply cosmetics whilst using these materials. Keep away from food, drink and animal feed stuffs and out of reach of children. Observe good industrial hygiene practices.

#### Storage

Store in a cool, dry place. Keep container closed when not in use.

### SECTION: 8 Exposure controls/personal protection

Element	Long term (8 Hour) *TWA Value	Short term ( 15 mins) *TWA Value
Fluoride (inorganic as F) (CAS 16984-48-8)	2.5 mg / m <sup>3</sup>	-
Hydrogen fluoride (as F) (CAS No. 7664-39-3)	1.5 mg/m <sup>3</sup>	2.5 mg/m <sup>3</sup>
Disodium ttraborate decahydrate (CAS No. 1303-96-4)	5.0 mg/m <sup>3</sup>	-

\*Time weighted average

#### Personal Protection

Avoid exposure to fume by using good natural ventilation or local exhaust extraction. If risk of inhalation exists, personal respiratory protection should be worn. Local exhaust extraction systems should be tested for effectiveness to ensure adequate capture of the fume on initial installation and then checked on a regular basis to confirm on-going effectiveness.

If is recommended that safety glasses are worn when handling or using this product for brazing.

Where regular, on-going skin contact with the product cannot be avoided suitable gloves should be worn. Seek advice from gloves supplier to most suitable type of gloves to protect against this type of product. Show gloves supplier this Safety Data Sheet.

In cases where skin contact with the product may occur on an irregular basis the use of barrier creams will help to prevent skin irritation in such circumstances. Suitable gloves should also be worn where the nature of the brazing operation may result in hand contact with the molten flux or brazing filler metal to protect against burns.

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### Hygiene measures

Wash hands after using these products.

Use protective clothing appropriate to the nature and use of the product.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	White paste.
<b>Odour</b>	No detectable odour
<b>pH</b>	7 of detectable paste.
<b>Boiling/melting Point</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Flammability</b>	Not flammable.
<b>Oxidising properties</b>	Not oxidizing.
<b>Solubility</b>	Not soluble in water.

## SECTION 10: Stability and reactivity

Product is stable, but being aqueous paste, may separate on standing and water can be lost due to evaporation increasing the product's viscosity and eventually becoming a hard mass.

Avoid contact with acids and strong oxidizing agents. No other adverse reactions are known.

## SECTION 11: Toxicological information

The product contains both boric acid and sodium tetra borate decahydrate which are classified as category 2 reproductive toxins (Repr. Cat 2) both of which may impair fertility and may cause harm to the unborn child. The product also contains potassium tetraborate which is classified as a category 3 reproductive toxin (Repr. Cat. 3) and presents possible risks of impaired fertility and risks of harm to the unborn child.

**LD50 (Oral-rat) for boric acid 2660 mg/kg**

**LD50 (Oral-rat) for potassium tetra borate 3500 to 4100 mg/kg**

### Primary irritant effect:

On the skin : None

On the eye: None

**Sensitisation: No sensitizing effects known**

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CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)  
Possible risk of impaired fertility.  
Possible risk of harm unborn child.  
Limited evidence of a carcinogenic effect.

### SECTION 12: Ecological information

Boric acid  
CE 133 mg/l (daphnia) (48h)  
L (E) C 50 to 100 mg/l (Fish) (96h)  
Potassium tetraborate

CL50 133 mg/l (daphnia)(equivalent boron (B) – 48h – daphnia magna straus)  
CL50 / 96h 40 mg/l (fish) (equivalent boron (B) – limanda limanda)

Water hazard class 2

Self assessment : Hazardous for water

Do not allow product to reach groundwater, water course or sewerage

Dangerous for drinking water even in small quantities

### SECTION 13: Disposal considerations

#### Residual waste

Dispose according to local and national regulations. Registered waste  
Contractors should be aware of the composition and data given in section 2 of  
this document.

### SECTION 14: Transport information

#### Land transport ADR/RID (cross-border)

<b>ADR/RID Class</b>	Not classified for transport
<b>UN number</b>	Not classified for transport
<b>UN proper shipping name</b>	-
<b>Transport hazard class(es)</b>	-
<b>Packing group</b>	-
<b>Environmental hazards</b>	-
<b>Tunnel restriction code</b>	-
<b>Labels required</b>	-
<b>Special precautions for user</b>	-

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Maritime transport IMDG	
IMDG Class	Not classified for transport
UN number	Not classified for transport
UN proper shipping name	-
Transport hazard class(es)	-
Packing group	-
Environmental hazards	-
Marine pollutant	-
Labels required	-
Tunnel restriction code	-

Air transport ICAO-TI and IATA-DGR	
ICAO/IATA Class	Not classified for transport
UN/ID number	Not classified for transport
Label	-
Packing group	-
Proper shipping name	-

UN "Model Regulation"

### SECTION 15: Regulatory information



**Contains:**  
**Boric acid**  
**Potassium fluorosilicate**  
**Potassium tetraborate**

EC Supply

Toxic

#### Risk Phrases

- R60** May impair fertility  
**R61** May cause harm to the unborn child.  
**R23/24/25** Toxic by inhalation, in contact with the skin and if swallowed.

#### Safety Phrases

- S20** When using do not eat or drink.  
**S26** In case of eye contact, rinse immediately with water and seek medical advice.

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- S36/37/39** Wear suitable protective clothing, gloves, and eye/face protection.
- S45** In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
- S53** Avoid exposure – obtain special instructions before use.
- S60** This material and its container must be disposed of as hazardous waste.

The product contains substances listed as “Substances of Very High Concern” (SVHC) under REACH.

### SECTION 16: Other information

#### Former occupational Exposure limits EH40/2004

Element	Long term (8 hour) TWA Value	Short term (15 minutes) *TWA Value
Boron trifluoride (CAS No. 7637-07-2)	-	2.8 mg/m <sup>3</sup>

TWA = Time weighted average

#### Note:

When assessing the risks of using this product a complete assessment of the risks can only be made in conjunction with the SDS for the brazing filler metal and taking into account any hazards associated with the brazing process, such as the gases given off from any torch flames.

#### Wording of ‘R’ (Risk) Phrases used in Section 3

- R23/24/25** Toxic by inhalation, in contact with the skin and if swallowed.
- R60** May impair fertility.
- R61** May cause harm to the unborn child.
- R62** Possible risk of impaired fertility.
- R63** Possible risk of harm to the unborn child.

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