

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

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

1.1	Product Identifier	
	Trade name of designation of the mixture	ALL ROUND FLUX Paste/Powder
	Synonyms	EN 1045:1999 – FSH10
	Issue date	01 October 2015
	Version number	1
1.2	Relevant identified use of the substance or mixture advised against	
	Identified uses	Flux for Silver Brazing Alloys
	Uses advised against	None known.
1.3	Details of the supplier of the safety data sheet	
	Company	Metalli A/S Nyholms alle 46 2610 Rødovre Denmark
	E-mail	info@metalli.dk
	Telephone number	+45 3670 0544
1.4	Emergency telephone number	+45 3670 0544

SECTION 2: Hazards Identification

2.1 **Classification of the substance or mixture**
Classification according to Directive 67/548/EEC and 1999/45/EC and / or EC regulation 1272/2008 (CLP) The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

Any additional information concerning the risk for health and/or the environment is given in sections 11 and 12 of this sheet.

CLP (1272/2008)	Acute toxicity, category 4	H302	Harmful if swallowed
	Eye irritation, category 2	H319	Cause serious eye irritation

Physical hazards Not classified for physical hazards.

The classification of the compound, featuring an extreme pH value, is based on the results of an appropriate validated in-vitro test as set out in the 67/548/EEC directive; annex VI, paragraph 3.2.5, and following modifications.

The full wording of the Risk ® and hazard (H) phrases is given in section 16 of the sheet.

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

Environmental hazards Not classified for hazards to the environment.

2.2 Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.



Label according to Directive 67/548/EEC or 1999/45/EC as amended

H302	Harmful if swallowed
H319	Cause serious eye irritation
P102	Keep out of reach of children
P103	Read label before use.
P201	Obtain special instructions before use.
P260	Do not breathe dust / fume / gas / mist / vapours / spray
P273	Avoid release to the environment.
P280	Wear protective gloves / clothing and eye / face protection
P305+P305+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.

Contains: Potassium tetrafluoroborate

2.3 Other hazards On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0, 1%.

SECTION 3: Compositional information



3.1 Mixtures

General information

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

Substance	CAS No.	EINECS No.	CLP-Classification	% Concent
Potassium metaborate	13709-94-96	237-262-2	Eye Irrit. 2 H319 	54 to 56
Potassium tetrafluoborate	14075-53-7	237-928-2	Aquatic Chronic 4 H413	25 to 26
Potassium tetraborate	12045-78-2		Repr. 2 H361d 	20 to 22

Composition comments

The full text for all R-phrases is displayed in Section 16. All concentrations are in percent by weight unless ingredient is a gas.

Additional information

This product contains a substance listed on the list of candidate substances according to the article 59 of the Regulation n. 1907/2006("REACH") at a concentration $\geq 0.1\%$ by weight.

SECTION 4: First aid measures

General information

Get medical attention if any discomfort develops. Seek medical attention for all burns, regardless of how minor they may seem. Show this safety data sheet to the doctor in attendance.

4.1 Description of first aid measures

Inhalation

Remove from source of exposure and allow to rest in fresh air. In acute case of breathing difficulties, give oxygen. In case of persistent irritation, summon medical aid.

Skin contact

Remove any contaminated clothing and wash skin immediately with plenty of cold water. Seek medical attention if sores develop. Launder clothing before re-use.

Eye contact

Irrigate with water or isotonic saline for up to 20 minutes with eyes open. Rinse with lukewarm water, because cold water can damage the eye. Seek medical attention if there is any hint of eye damage.

Ingestion

Rinse mouth with water & give patient water or milk mixed with calcium carbonate (chalk) to drink. Do not induce vomiting. Summon medical aid.

4.2 Most important symptoms and effects, both acute and delayed

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

In case of persistent irritation, consult a doctor.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote.

SECTION 5: Fire fighting measures

General fire hazards

Use jets of water to cool the containers to prevent product decomposition and the development of prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide, foam, powder or nebulised water spray.

Unsuitable extinguishing media

Not applicable.

5.2 Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE.

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc.)

5.3 Advice for fire fighters

Special protective equipment for fire fighters

Use full protection (fireproof clothing, hardhat with visor etc.) with breathing apparatus (BS EN 137) if involved in a fire as harmful fumes may be evolved. Kit (BS EN 469), Gloves (BS EN 659), Boots (HO specification A29 and A30)

Special firefighting procedures

Not applicable.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid contact with skin or eyes.

Use personal equipment during clean-up operation, gloves, eye protection etc. as considered appropriate to the size and nature of the release. Do not inhale dust.

For emergency responders

Not applicable.

6.2 Environmental precautions

Avoid any type of spill in the waters: drains or soils.

If product is likely to enter watercourse or sewerage system, 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.

6.3 Methods and material for Containment and cleaning up

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 mop up as much as is possible. Avoid dust formation.

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

6.4 Reference to other sections

Use absorbent material to mop up remaining diluted product. Place mopped up product and any absorbent material into a suitable container for disposal.
For safe handling see section 7.
For personal protection, see section 8.
For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe 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 food stuffs and out of reach of children.

Wash hands with soap and water following skin contact with the product and wash hands with soap and water after handling the product even if no direct

Skin contact has occurred. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

No further relevant information available.

SECTION: 8 Exposure controls/personal protection

8.1 Control parameters Occupational exposure limits

Element	Type	Long term(8 Hour) TWA Value	Short term (15 Mins.) TWA Value
Potassium tetrafluoborate CAS 13709-94-96	TLV	1 mg/ m ³	-

TWA = Time weighted average

Biological limit values

No biological exposure limits for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

8.2 Exposure controls

Appropriate engineering controls

Avoid exposure to fume by using good natural ventilation or local exhaust extraction. Local exhaust extraction systems should be tested for

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

effectiveness to ensure adequate capture of the fume on initial installation and then checked on a regular basis to confirm on-going effectiveness.

Individual protection measures, such as personal protective equipment

General information

If risk of inhalation exists, personal respiratory protection should be worn. An emergency eye and shower system must be provided.

Eye/face protection

It is recommended that safety glasses are worn when handling or using this product for brazing. (standard EN166)

Skin protection

- Hand protection

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. (Directive 89/686/EEC and standard EN 374)

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. Wear long-sleeved overalls and safety footwear. Wash body with soap and water after removing overalls.

- Other

None

Respiratory protection

If risk of inhalation exists, personal respiratory should be worn.

Thermal hazards

When heated the product will fume slightly and with overheating the flux fumes will increase. The fumes produced may include hydrogen fluoride and boron trifluoride, which can cause irritation of the nasal passages, eyes and throat.

Hygiene measures

Wash hands after using these products.

Environmental exposure controls

See section 6.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	powder/pasta
Colour	White
Odour	mild
Odour threshold	Not determined
pH	8,0
Melting point/freezing point	> 600°C
Initial boiling point and boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (Solid, gas)	Not determined
Upper/lower flammability or explosive limits	

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

	Flammability limit – lower (%)	Not determined
	Flammability limit – upper (%)	Not determined
	Vapour pressure	Not determined
	Vapour density	Not determined
	Relative density	Not determined
	Specific gravity	Not determined
	Solubility	Not determined
	Partition coefficient (n-octanol/water)	Not determined
	Decomposition temperature	Not determined
	Viscosity	Not applicable
	Oxidizing properties	Not determined
9.2	Other information	No further relevant information available
	Bulk density	Not applicable
	VOC (Weight %)	Not applicable

SECTION 10: Stability and reactivity

10.1	Reactivity	Information not available.
10.2	Chemical stability	Stable at normal conditions.
10.3	Possibility of hazardous	Information not available
10.4	Conditions to avoid	Avoid overheating, electrostatic discharge and all sources of ignition.
10.5	Incompatible materials	Mineral Acid
10.6	Hazardous decomposition products	In the event of thermal decomposition or fire, vapours potentially dangerous health may be released.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Acute effects:	Inhalation and ingestion of this product are harmful. This product may irritate mucosa's, the upper respiratory tract, eyes and skin. Exposure symptoms may include stinging and irritated eyes, mouth, nose, throat, cough, respiratory disorders, dizziness, headache, nausea and sickness.
Symptoms	In the most serious cases, inhalation of this product may cause larynx and bronchial tube edema and irritation, chemical pneumonia and pulmonary edema. Ingestion of even small amounts of this product may cause health disorders (stomach pain, nausea, sickness, and diarrhea.)

SECTION 12: Ecological information

12.1	Toxicity	Potassium tetraborate:
------	-----------------	------------------------

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

Component	Test	Method	test results
Protassium tetrafluoroborate	CL50	Fish	> 760 mg/l / 96h

12.2	Persistence and degradability	No further relevant information available.
12.3	Bioaccumulative potential	No further relevant information available.
	Partition coefficient n-octanol/water (log Kow)	No further relevant information available.
	Bioconcentration factor (BCF)	Unknown.
12.4	Mobility in soil	
	Mobility in general	No further relevant information available.
12.5	Results of PBT and vPvB Assessment	On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%
12.6	Other adverse effects	None

SECTION 13: Disposal considerations

13.1	Water treatment method	
	Residual waste	Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be
	Contaminated packaging	Must be recovered or disposed of in compliance with national waste Management regulations.
	EU waste code	Not applicable.
	Disposal methods/information	Disposal must be performed through an authorized waste management firm, in compliance with national and local regulations.

SECTION 14: Transport information

Land transport ADR/RID (cross-border)

14.1	UN number	
14.2	UN proper shipping name	
14.3	Transport hazard class(es)	Not dangerous under current provisions
14.4	Packing group	
14.5	Environmental hazards	Not applicable.
	Tunnel restriction code	
	Labels required	
14.6	Special precautions for user	

Maritime transport IMDG

14.1	UN number	
14.2	UN proper shipping name	
14.3	Transport hazard class(es)	Not dangerous under current provisions
14.4	Packing group	
14.5	Environmental hazards	Not applicable.

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

	Marine pollutant	No
	Labels required	
	EmS No.	Not applicable.
14.6	Special precautions for user	
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

Air transport ICAO-TI and IATA-DGR		
14.1	UN number	
14.2	UN proper shipping name	
14.3	Transport hazard class(es)	not dangerous under current provisions
14.4	Packing group	
14.5	Environmental hazards	Not applicable.
	Labels required	
	ERG Code	None.
14.6	special precautions for user	

SECTION 15: Regulatory information

15.1	Safety, health and environmental regulation specific for the substance or mixture	
	EU Regulations	Regulation (EC) No 1907/2006 ("REACH").
	Substances of very high concern (SVHC) according to REACH:	
	Authorisations	Not regulated.
	Restrictions on use	No. restrictions on use.
	Other EU regulations	Not regulated.
	Other regulations	The product is classified and labeled in accordance with Regulation (EC) 1272/2008 (CLP regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.
	National regulations	Not listed.
15.2	Chemical safety assessment	No Chemical Safety Assessment has been carried-out.

SECTION 16: Other information

Text of risk phrases mentioned in section 2-3 of the sheet:

Full text of any statements

	Reproductive toxicity, category 2
Eye irrit. 2	Eye irritation, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H361d	Suspected of damaging the unborn child
H319	Cause serious eye irritation
H413	May cause long lasting harmful effects to aquatic life.

METALLI

SAFETY DATASHEET – ALL ROUND FLUX PASTE/POWDER

@ Copyright, Metalli as 2015

Legend:	ADR:	European Agreement concerning the carriage of Dangerous goods by Road.
	CAS Number:	Chemical Abstract Service Number
	CE50:	Effective concentration (required to induce a 50% effect)
	CE number:	Identifier in ESIS (European archive of existing substances)
	CLP:	EC Regulation 1272/2008
	DNEL:	Derived No Effect Level
	EmS:	Emergency Schedule
	GHS:	Globally Harmonized System of classification and labeling of Chemicals.
	IATA DGR:	International Air Transport Association Dangerous Goods Regulation.
	IC50:	Immobilization Concentration 50%
	IMDG:	International Maritime Code for dangerous goods
	IMO:	International Maritime Organization.
	INDEX number:	Identifier in Annex VI of CLP
	LC50:	Lethal Concentration 50%
	LD50:	Lethal dose 50%
	OEL:	Occupational Exposure Level
	PBT:	Persistent, bio accumulative and toxic as REACH Regulation
	PEC:	Predicted environmental Concentration
	PEL:	Predicted exposure level
	PNEC:	Predicted no effect concentration
	REACH	EC Regulation 1907/2006
	RID:	Regulation concerning the international transport of dangerous goods by train.
	TLV:	Threshold Limit Value
	TLV Ceiling:	Concentration that should not be exceeded during any time of occupational exposure.
	TWA STEL:	Short-term exposure limit.
	TWA:	Time-weighted average exposure limit
	VOC:	Volatile organic compounds
	vPvB:	Very Persistent and very Bio accumulative as for REACH regulation.
	WGK:	Water hazard classes (German)

This safety data sheet is prepared in accordance with EC - MSDS Directives. The information contained herein and recommendations in this material safety data sheet has been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared and is offered in good faith. However, no warranty or representation, expressed or implied, as to the accuracy or adequacy of the information. the user of this product must decide what safety measures are necessary for the safe use of this product , either alone or in combination with other products , and determine its legal obligations environmental compliance in accordance with applicable Community, national or state laws . Metalli assumes no responsibility for injury to the end user caused by the material even if proper safety procedures are followed. The end user must determine the suitability of the information for their particular use. The end user assumes the risk in the use of material. The information contained in this document may change periodically. See if you have the latest version of the SDS.