

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

- **1.1 Product identifier**
- **Trade name:** COBOR FLUX 1040
- **Article number:** 1040/2.000
- **EC number:**
948-039-0
- **Registration number** 01-2120790331-58-0000
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 SU15 *Manufacture of fabricated metal products, except machinery and equipment*
 SU17 *General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment*
 SU19 *Building and construction work*
- **Product category** PC38 *Welding and soldering products, flux products*
- **Process category**
 PROC4 *Chemical production where opportunity for exposure arises*
 PROC19 *Manual activities involving hand contact*
 PROC24 *High (mechanical) energy work-up of substances bound in /on materials and/or articles*
 PROC25 *Other hot work operations with metals*
 PROC26 *Handling of solid inorganic substances at ambient temperature*
 PROC28 *Manual maintenance (cleaning and repair) of machinery*
- **Environmental release category**
 ERC1 *Manufacture of the substance*
 ERC2 *Formulation into mixture*
 ERC6b *Use of reactive processing aid at industrial site (no inclusion into or onto article)*
 ERC8e *Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)*
- **Technical function** *Brazing flux*
- **Application of the substance / the mixture** *Brazing flux*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Specialised Welding Products Ltd
Unit 1, Farringdon Industrial Centre, Farringdon, Nr Alton, Hampshire GU34 9DD, UK
Tel: +44 (0)1420 588180, Email: sales@wsp.uk.net
- **1.4 Emergency telephone number:** +44 (0)1420 588180
- www.specialisedwelding.co.uk

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS07, GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**
Reaction product of mixed inorganic base and acid resulting in potassium trihydroxy fluoroborate, dipotassium tetrahydroxy tetraboronpentaoxide dehydrate, potassium tetrafluoroborate in powder form.
- **Hazard statements**
H302 Harmful if swallowed.
H361d Suspected of damaging the unborn child.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 **IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**
P308+P313 **IF exposed or concerned: Get medical advice/attention.**
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description:**
Reaction product of mixed inorganic base and acid resulting in potassium trihydroxy fluoroborate, dipotassium tetrahydroxy tetraboronpentaoxide dehydrate, potassium tetrafluoroborate in powder form.
- **Identification number(s):**
- **EC number:** 948-039-0
- **Additional information:**
This product contains an UVCB substance which was registered using a READ-ACROSS approach with potassium tetraborate (CAS n°12045-78-2).
Possible traces of SVHC substance according to Article 59 of Regulation No. 1907/2006 ("REACH") at a concentration <0,1%.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing**
Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.
- **4.2 Most important symptoms and effects, both acute and delayed**
This product may compromise fertility and / or harm the fetus.
Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

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· **Information for doctor**

No specific antidote. Treat the symptoms.

If vomiting occurs, keep head lower than the rest of the body so as to prevent aspiration into the lungs.

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

Simple observation is necessary for ingestion by an adult of less than a few grams of product. In the case of ingestion of larger amounts, maintain fluid and electrolyte balance and maintain adequate renal function. Gastric lavage is only recommended for highly exposed and symptomatic patients in whom vomiting has not cleared the stomach. Hemodialysis should be reserved for patients with massive acute absorption, especially for patients with impaired renal function. Boron assays in urine or blood are only useful for verifying exposure but are not useful for assessing the severity of the poisoning or as a guide for treatment.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire fighting measures that suit the environment.

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

Possibility of formation of toxic and/or corrosive decomposition products.

Hydrogen fluoride (HF)

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear fully protective suit.

· **Additional information**

The product is non-combustible.

non-flammable substance/product.

The product itself is not combustible; Define the means of extinction according to a fire in the vicinity. In case of fire and / or explosion, do not breathe fumes. Large quantities of extinguishing water containing dissolved product should be retained. Contaminated extinguishing water should be disposed of in accordance with local official regulations.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Dispose of contaminated material as waste according to item 13.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Handle in accordance with good hygiene and safety at work. Before the break and after work, wash your hands thoroughly. Remove and wash contaminated clothing before reuse. Provide safety showers and eye fountains in workshops where the mix is handled consistently.

· **Information about protection against explosions and fires:** No special measures required.

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

· **Storage**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Advised preservation period under normal storage conditions: 24 months.

Keep receptacle tightly sealed.

Keep away from food, beverages and animal feed.

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- **Storage class**
- **Class according to regulation on flammable liquids:** Void
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**

This product contains an UVCB substance that has been registered using a READ-ACCROSS approach with potassium tetraborate (CAS No. 12045-78-2). Values (DNEL, PNEC, etc) and recommendations on exposure are defined in relation to this reference substance.

· **Components with limit values that require monitoring at the workplace:**

This substance does not have a exposure limit. However, it may be necessary to move closer to national legislation with regard to fluoride and borate.

CAS: 14075-53-7 potassium tetrafluoroborate

WEL Long-term value: 2.5 mg/m³
as F

CAS: 1303-86-2 boric oxide

WEL Short-term value: 20 mg/m³
Long-term value: 10 mg/m³

· **DNELs**

CAS: 12045-78-2 potassium tetraborate

Oral	DNEL	1.2 mg/kg bw/day (user long term systemic effect)
		1.2 mg/kg bw/day (user short term systemic effect)
Dermal	DNEL	242.4 mg/kg bw/day (user long term systemic effect)
		480.6 mg/kg bw/day (worker long term systemic effect) (chronic systemic effects)
Inhalative	DNEL	5.16 mg/m ³ (user long term systemic effect)
		10.25 mg/m ³ (worker long term systemic effect)

· **PNECs**

CAS: 12045-78-2 potassium tetraborate

PNEC	2.02 mg/l (Fresh water) (of boron)
	13.7 mg/l (intermittent releases) (of boron)
	10 mg/l (STP microorganismes station d'eaux usées) (of boron)
	2.02 mg/l (Sea water) (of boron)
PNEC	5.4 mg/kg (soil) (of boron, kg dry soil)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Safety showers and eye wash stations should be strategically located in areas where hazardous products are stored or used. Their location should be close enough for immediate use, but at a distance that would not create additional danger.

· **Breathing equipment:**

Provide an adequate ventilation, through the installation of local exhaust ventilation-unit and a general exhaust system. Applying recommended technical measures, it is not necessary to wear personal protective equipment.

Air Emissions: Emissions to air can be prevented by one or more of the following dust control measures: electrostatic precipitators, cyclones, fabric or bag filters, membrane filters, ceramic and metal strainers, and by wet scrubbers.

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In the event that suspended dust concentrations exceed the exposure limits, respirators should be used. (CEN 149:2001).

· **Protection of hands:**

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to a lack of tests, no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Glove material**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Cotton gloves

Strong gloves

Rubber gloves

· **Penetration time of glove material**

The exact penetration time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** *Not required.*

· **Limitation and supervision of exposure into the environment**

It is important to test emissions from ventilation systems or manufacturing equipment to ensure they comply with the requirements of legislation on protection of the environment. In some cases it will be necessary to equip the material for manufacturing a gas scrubber or filter or change technically to reduce emissions to acceptable levels.

· **Risk management measures**

Employer is obligated to ensure, that applied personal protective measures and cloths and shoes have protective and usable properties, and ensure their proper washing, preserving, fixing and disinfection.

Training on chemical hazards, use and exposure to products must be provided by the employer to prevent any risk. The instructions to be observed must also be brought to the knowledge of employees and users (hygiene rules, operating procedures, procedures, prohibition of access to certain areas, use of collection devices at source, obligation to wear PPE, etc).

Risk management measures (RMM) and operating conditions (OC) were calculated using tools. Users should ensure that exposures are under control. in case of deviation, a step of calibration of the results (scaling) must be used. Expert judgment may be required to validate the approach and results.

ECETOC TRA.

For exposure control related to environmental protection, refer section 12.

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Powder

Colour: White

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/freezing point: >350 °C

Initial boiling point and boiling range: undetermined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Product is not flammable.

Not determined.

Not applicable.

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· Decomposition temperature:	Not determined.
· Self igniting:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	2,182 g/cm ³
· Bulk density:	2,182 kg/m ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water at 20 °C:	<0.00157 g/l
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Solids content:	100.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
The product is stable at normal ambient temperatures (-40 ° C to + 40 ° C). Under the effect of heat, this product loses water, possibly forming anhydrous borates.
- **10.3 Possibility of hazardous reactions**
Reaction with strong reducing agents such as hybrid metals or alkaline metals. Which generates of the gaseous dihydrogen, which could provoke a risk of explosion.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Reaction with strong reducers
- **10.6 Hazardous decomposition products:**
The liberation of other products of decomposition presenting risks is possible.
Hydrogen fluoride

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Potassium tetraborate is not classified for the oral, dermal and inhalation routes because LD50 values exceed the classification limit. However, samples of this family have been tested according to the OECD 423 criteria and, as a precaution, acute toxicity category 4 has been proposed.
Harmful if swallowed.

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· LD/LC50 values that are relevant for classification:

CAS: 12045-78-2 potassium tetraborate

Oral	LD50	3,500-4,100 mg/kg (rat) (OECD guideline 401 - oral acute toxicity) substance tested : boric acid
Dermal	LD50	mg/kg (rabbit) Based on a dermal LD50 value with boric acid in rabbits greater than 2000mg/kg bw, and since potassium tetraborate is not anticipated to have a dermal LD50 value in the range of 2000-5000 mg/kg bodyweight, the classification criteria are not met.
Inhalative	LC50	mg/l (rat) (OECD guideline 403 - inhalation acute toxicity) Based on LC50 values in rats for acute inhalation toxicity studies with other borates (disodium tetraborate pentahydrate) that were >2g/l, the classification criteria are not met.

· Primary irritant effect:

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· Additional toxicological information:

This product contains an UVCB substance that has been registered using a READ-ACCROSS approach with potassium tetraborate (CAS No. 12045-78-2). Recommendations, toxicological and ecotoxicological values are defined in relation to this reference substance.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Others datas concerning CMR effects** Suspected reprotoxic effect - insufficient evidence.

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

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

· Reproductive toxicity

Suspected of damaging the unborn child.

· **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.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

This product contains an UVCB substance that has been registered using a READ-ACCROSS approach with potassium tetraborate (CAS No. 12045-78-2). Toxicological and ecotoxicological values and recommendations are defined in relation to this reference substance.

No further relevant information available.

· Type of test Effective concentration Method Assessment

CAS: 12045-78-2 potassium tetraborate

CL50 / 96h	79.7 mg/l (fish) as boron - pimephales promelas - - fresh water - acute
CE50 / 48h	91 mg/l (daphnia) as boron - ceriodaphnia dubia - fresh water - acute
CE50 / 72h	52.4 mg/l (algae) as Boron - Pseudokirchneriella subcapitata - fresh water - acute
NOAEL aquatic	17.5 mg/l (algae) as Boron - pseudokirchneriella subcapitata - fresh water - chronic 6.4 mg/l (fish) as boron - brachydanio rerio - fresh water - chronic 14.2 mg/l (daphnia) as boron - daphnia magna - fresh water - chronic

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

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· **12.4 Mobility in soil** No further relevant information available.

· **Other information**

Note that the values are expressed in boron equivalents. Boron is an essential micronutrient for healthy plant growth. In larger quantities, it can be harmful to boron-sensitive plants. It is necessary to minimize the amount of products containing borates released into the environment.

Dipotassium tetraborate is converted into boric acid/borate upon dissolution in water. Boric acid is an inorganic compound and not degradable. It is not subject to hydrolysis, photodegradation or biodegradation. Other borates yield boric acid upon dissolution in water (or borate anion in higher pH conditions). Over 200 minerals contain boron, mostly present as the sodium or calcium borate salt. Boron and its inorganic compounds are subject to chemical transformation (precipitation, and fixation) once released to the environment.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

Must apply in all cases all local, regional and national laws and European directives. The end user must determine the specific code of waste for each industry using the appropriate European Code European Waste Catalogue. It is recommended that all details are specified by the responsible waste.

HP 6	Acute Toxicity
HP 10	Toxic for reproduction

· **Uncleaned packagings:**

· **Recommendation:**

Dispose of packaging according to regulations on the disposal of packagings.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, ADN, IMDG, IATA** Void

· **14.2 UN proper shipping name**

· **ADR** UN-

· **ADN, IMDG, IATA** Void

· **14.3 Transport hazard class(es)**

· **ADR, ADN, IMDG, IATA**

· **Class** Void

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· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **National regulations**

· **Classification according to VbF:** Void

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Customs Combined Nomenclature :** 38.10.90.90.00

· **15.2 Chemical safety assessment:**

The information on the exposure scenarios of the substances was compiled in the different parts of the SDS of the mixture on the basis of read-across with potassium tetraborate.

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

We can not anticipate all conditions under which this information and our products or the combination of these with others will be used. We disclaim all responsibility for the safety and suitability of our products alone or in combination with others. It is up to the buyers to conduct their own tests to determine the safety and adaptation of each product used alone or with other products for their own use.

Unless prior written our products are sold without warranty and purchasers assume any liability for loss or damages of any kind suffered by themselves or third parties, either from handling or use of our products they are alone or with others. In case of finding of a difference when using the product we ask you to contact our technical service.

The information contained in this Material Safety Data Sheet is based on the knowledge of this product as well as national and European laws knowing that the working conditions of its users are not known and thus escape our control. The product should not be used for purposes other than those for which it was designed and prepared, it can be used without prior written knowledge of instructions for their use. It is up to the user to take all measures necessary to comply with these requirements by law.

Training advice: Training awareness of the dangers of chemicals, integration labeling, safety data sheets, personal protection and good hygienic measures. response training for chemical incidents. First aid for chemical exposure, including the use of safety eye wash and showers. The use of personal protective equipment, including selection, compatibility, maintenance, standards and fit. method of classification for mixtures: Calculation method.