



Printing date 20/01/2011

Reviewed on 01/01/2017

## Safety Data Sheet

### 1 IDENTIFICATION

#### Product identifier

**Trade name:** Eco Smart Boric Acid Free Flux - Powder

**Other means of identification:** Brazing Flux – Green, Black & White

SDS # 003

#### Recommended use and restriction on use

**Recommended use:** Flux Brazing or Soldering

**Restrictions on use:** None known.

#### Manufacturer/Importer/Supplier/Distributor information

##### Importer:

Harris Products Group

14 Queensland Rd

Darra, QLD, Australia 4076

(07) 33753670

**Safety Data Sheet Questions:** [sales@hgea.com.au](mailto:sales@hgea.com.au)

**Website:** <http://www.harrisproductsgroup.com.au>

**Poisons Information Centre/Helpline (24 hours) Australia 13 11 26**

### 2 HAZARD(S) IDENTIFICATION

#### GHS classification of the substance/mixture.

Classified according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

#### Classification of the substance or mixture

The product is classified as hazardous according to the Globally Harmonized System (GHS)

#### GHS Classification(s)

Acute toxicity – oral	Category 4	H302 - Harmful if swallowed
Acute toxicity – dermal	Category 4	H312 - Harmful in contact with skin
Acute toxicity – inhalation	Category 4	H332 - Harmful if inhaled

#### Hazard Summary

<b>Physical hazards</b>	Not classified for physical hazards.
<b>Health hazards</b>	Harmful by inhalation, in contact with skin and if swallowed.
<b>Environmental hazards</b>	Not classified for hazards to the environment.
<b>Specific hazards</b>	Prolonged overexposure to fluorides may increase fluoride content of bones and teeth, and may result in fluorosis, with mottling of teeth (in children) and brittleness of bones.
<b>Main symptoms</b>	Absorbed fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and seizures.

#### Label elements

<b>Contains</b>	<b>Formula Colour</b> – Green, White – <b>contains</b> Potassium fluorosilicate Black – <b>contains</b> Boron, Potassium fluorosilicate
-----------------	--

Signal word                    **WARNING**

**Hazard pictograms**



**Hazard Statement(s)**

**H302**                    Harmful if swallowed.  
**H312**                    Harmful in contact with skin  
**H332**                    Harmful if inhaled

**Prevention Statement(s):**

**P261**                    Avoid breathing dust/fumes.  
**P264**                    Wash thoroughly after handling.  
**P270**                    Do not eat, drink or smoke when using this product.  
**P271**                    Use only outdoors or in a well ventilated area.  
**P280**                    Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s):**

**P301 + P312**            IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
**P330**                    Rinse mouth  
**P302 + P352**            IF ON SKIN: Wash with plenty of soap and water.  
**P312**                    Call a POISON CENTRE or doctor/physician if you feel unwell.  
**P363**                    Wash contaminated clothing before reuse.  
**P304 + P312.**            IF INHALED: Call a POISON CENTRE or doctor/physician if you feel unwell.

**Storage Statement(s):**    Store Locked Up & away from incompatible materials

**Disposal Statement(s):**

**P501**                    Dispose of contents/container in accordance with relevant regulations.

**Other Hazards**                No information provided

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:** Mixture: consisting of the following components.

Sustances/Mixtures		
CAS	Ingredient	Proportion
14075-53-7	Potassium fluoborate (present in green, white & black formula)	<70%
7440-42-8	Boron (present in black formula)	<3%
16871-90-2	Potassium fluorosilicate (present in green, white & black formula)	<3%

**Additional information:**

For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

**Composition comments:**

The term "Dangerous Components" should be interpreted as a term defined in Hazard Communication standards and does not necessarily imply the existence of a hazard. The product may contain additional nonhazardous ingredients or may form additional compounds under the condition of use. Refer to Sections 2 and 8 for more information.

## 4 First-aid measures

### Description of first aid measures

**General information:** Show this safety data sheet to the doctor in attendance.

#### Inhalation:

Remove person from contaminated area to fresh air. Apply artificial respiration if needed. Get medical attention if discomfort develops or persists.

#### Skin contact:

Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention if irritation develops and persists.

#### Eye contact:

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.

#### Ingestion:

Do NOT induce vomiting. Immediately rinse mouth and drink a cupful of water. Never give anything by mouth to an unconscious person. Seek medical attention.

For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**Information for doctor:** Treat Symptomatically

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

Absorbed fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and seizures.

## 5 Fire-fighting measures

### General fire hazards

This product is not flammable.

### Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials. Water spray, foam, dry powder or carbon dioxide.

### Unsuitable extinguishing media

None known

### Special hazards arising from the substance or mixture

Hydrogen fluoride, a corrosive and toxic gas, and other potentially hazardous fluorine-containing compounds may be released upon combustion.

### Advice for firefighters

#### Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### Special fire fighting procedures

Move containers from fire area if you can do so without risk.

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Avoid inhalation of dust from the spilled material. Wear protective clothing as described in Section 8 of this SDS. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

#### For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in section 8 of the SDS

#### Environmental precautions:

Do not allow to enter drains, sewers or watercourses. Reporting of releases to appropriate regulatory agencies may be required.

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

Stop the flow of material, if this is without risk. Avoid release to the environment.

**Large Spills:** Sweep or vacuum up spillage and collect in suitable container for disposal. Avoid the generation of dusts during clean-up.

**Small Spills:** Wipe up spilled material and place in a suitable container for disposal.

Never return spills in original containers for re-use. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the SDS.

For waste disposal, see section 13 of the SDS.

**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.

**7 Handling and storage****Handling:****Precautions for safe handling**

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Avoid inhalation of dust. Avoid inhalation of fumes from heated product. Avoid contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8). Do not eat, drink or smoke when using the product. Avoid release to the environment.

**Conditions for safe storage, including any incompatibilities****Storage:**

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials.

**Specific end use(s)** Flux Brazing or Soldering

**8 Exposure controls/personal protection****Control parameters****Exposure Guidelines:**

Exposure Standards					
CAS	Ingredient	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>
14075-53-7	Potassium fluoborate (present in green, white & black formula)		2.5		
7440-42-8	Boron (present in black formula)				
16871-90-2	Potassium fluorosilicate (present in green, white & black formula)		2.5		

Reference: UK. EH40 Workplace Exposure Limits (WELs)

Refer to Worksafe Australia for standards:

[http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/639/Workplace\\_Exposure\\_Standards\\_for\\_Airborne\\_Contaminants.pdf](http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/639/Workplace_Exposure_Standards_for_Airborne_Contaminants.pdf)

**Exposure controls****General protective and hygienic measures:**

No biological exposure limits noted for the ingredient(s).

**Engineering controls:** Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust. Shower, hand and eye washing facilities near the workplace are recommended.

**Ventilation**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**Personal protective equipment:****Breathing equipment:**

Where an inhalation risk exists, wear a Class P2 (Metal fume) respirator. If using product in a confined area, wear an Air-line respirator.

**Protection of hands:**

Wear nitrile or neoprene gloves for routine industrial use.

**Eye protection:**

Wear safety glasses with side shields (or goggles).

**Body protection: Protective work clothing****Hygiene measures:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls**

Contain spills and prevent releases and observe national regulations on emissions.

**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information**

<b>Appearance</b>	Green, white or black powder	<b>Physical State</b>	Solid
<b>Odour</b>	Not Available	<b>Flammability</b>	Not Available
<b>Odour Threshold</b>	Not Available	<b>Flash Point</b>	Not Available
<b>pH</b>	Not Applicable	<b>Auto Igniting</b>	Not Available
<b>Melting point/range</b>	Not Available	<b>Solubility water</b>	Near complete
<b>Vapour Pressure, mmHg@980°C</b>	Not Available	<b>Flash Point</b>	Not Available
<b>Vapour Density</b>	Not Available	<b>Density at 20°C (68°F)</b>	Not Applicable
<b>Boiling Point &amp; boiling range</b>	Not Available	<b>Evaporation Rate</b>	Not Available
<b>Freezing/Melting Point</b>	Not Available	<b>Specific Gravity @200C (water = 1)</b>	Not Available

## 10 Stability and reactivity

**Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability:** Stable under normal temperatures and pressures and conditions of storage.

**Possibility of hazardous reactions**

May be corrosive to metals

**Conditions to avoid:** Contact with incompatible materials.

**Incompatible materials:** Strong acids. Reactive metals

**Hazardous decomposition products:** Hydrogen fluoride, fluorine-, boron- and potassium-containing compounds.

## 11 Toxicological information

**General information:**

Occupational exposure to the substance or mixture may cause adverse effects.

Toxicity				
CAS	Ingredient	Oral Toxicity LD50	Intravenous Toxicity LD50	Inhalation Toxicity LD50
7440-42-8	Boron (present in black formula)	650 mg/kg Rat		
14075-53-7	Potassium fluoborate (present in green, white & black formula)		240 mg/kg Rat	
14075-53-7	Potassium fluoborate (present in green, white & black formula)		240 mg/kg Rat	

**Information on toxicological effects:**

**Acute toxicity:**

Harmful if swallowed. Harmful if inhaled. Harmful in contact with skin.

**Information on likely routes of exposure**

**Ingestion:**

Harmful if swallowed.

**Inhalation:**

Harmful by inhalation. Dust may irritate respiratory system. When heated, the vapours/fumes given off may cause respiratory tract irritation.

**Skin Contact:**

Harmful in contact with skin.

**Eye Contact:**

May cause eye irritation on direct contact.

**Symptoms:**

Absorbed fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and seizures.

**Skin corrosion/irritation**

May cause skin irritation.

**Serious eye damage/eye irritation**

May cause eye irritation on direct contact.

**Respiratory sensitisation**

No data available.

**Skin sensitisation**

This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

Not classified

**Reproductive toxicity**

Due to lack of data the classification is not possible.

**Specific target organ toxicity -single exposure**

Inhalation of dusts may cause respiratory irritation.

**Specific target organ toxicity -repeated exposure**

Not classified

**Aspiration hazard**

Not appropriate for solids

**Mixture versus substance information**

Not available

**Other information**

Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhoea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

---

**12 Ecological information**

**Toxicity:** No toxicity data noted for the ingredient(s).

**Persistence and Degradability:** No data is available on the degradability of this product

**Bioaccumulative Potential:** No data is available on the degradability of this product

**Mobility in soil:** This product is water soluble and may disperse in soil.

**Results of PBT & vPvB assessment:** Not a PBT or vPvB substance or mixture.

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

---

**13 Disposal considerations****Waste treatment methods****Recommendation:**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Uncleaned packagings:** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**Recommendation:** Disposal must be made according to official regulations. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

---

## 14 Transport Information

This product is not regulated as dangerous goods.

UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not Regulated
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
Packing group DOT, ADR, IMDG, IATA	Not Regulated
Environmental hazards: Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not regulated.

---

## 15 Regulatory information

**Product Name:** Eco Smart Boric Acid Free Flux - Powder

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

**Poison Schedule:**

Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications:**

Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Refer to the Australian Inventory of Chemical Substances – AICS at <https://www.nicnas.gov.au/chemicals-on-AICS#main>

**Poison schedule:** Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). <https://www.legislation.gov.au/Details/F2016L01638>

**Classifications:** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

---

## 16 Other information

### References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Modell Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.



Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

**WELDING (1):** Due to the diversity of welding techniques, processes, materials used, nature of the surface being welded and the presence of contaminants, the fumes & gases associated with welding will vary in composition and quantity. When assessing a welding process, the toxic fumes generated may not only be associated with the parent metal, filler wire or electrode. The welding/cutting arc may generate nitrogen oxides, carbon monoxide & other gases, whilst UV radiation emitted from some arcs generates ozone. Ozone may irritate mucous membranes and cause pulmonary oedema & haemorrhage. Shielding gases (e.g. carbon dioxide and inert gases i.e. argon and helium) in high concentrations, in confined spaces, may reduce oxygen in the atmosphere to dangerous levels, resulting in possible asphyxiation.

**WELDING (2):** In addition to complying with individual exposure standards for specific contaminants, where current manual welding processes are used, the fume concentration inside the welder's helmet should not exceed 5 mg/m<sup>3</sup> ( unless otherwise classified) when collected in accordance with Australian Standard AS 3853.1: Fume from welding and allied processes - Guide to methods for the sampling and analysis of particulate matter and AS 3853.2: Fume from welding and allied processes - Guide to methods for the sampling and analysis of gases. Airway irritation and metal fume fever are the most common acute effects from welding fumes. Reported to cause reduced sperm quality in welders.

**WELDING (3):** Other gases and fumes associated with welding processes include: Inert shielding gases (e.g. argon, carbon dioxide, helium) which may reduce the atmospheric oxygen content in poorly ventilated areas. UV-radiation and Infra-Red radiation may decompose chlorinated degreasing agents to form highly toxic and irritating phosgene gas. This may occur if a metal has been degreased but inadequately dried or when vapours from a nearby degreasing bath enter the welding zone.

**WELDING (4):** Welding fumes may contain a wide variety of chemical contaminants, including oxides and salts of metals and other compounds which may be generated from electrodes, filler wire, flux materials and from the welded material (e.g. painted surfaces). Welding stainless-steel and its alloys generates nickel and chromium (VI) compounds. Welding fumes are retained in the lungs. Sparingly soluble compounds may be released slowly from the lungs. Welding fume is classified as possibly carcinogenic to humans (IARC Group 2B).

#### **PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

#### **Disclaimer:**

We urge each end user and recipient of this SDS to study it carefully. If necessary, consult an industrial hygienist or other expert to understand this information and safeguard the environment and protect workers from potential hazards associated with the handling or use of this product.

Harris Products Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

#### **WARNING: PRODUCT COMPONENTS PRESENT HEALTH AND SAFETY HAZARDS. READ AND UNDERSTAND THIS MATERIAL SAFETY DATA SHEET (M.S.DS.). ALSO, FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.**

The information contained herein relates only to the specific product. If the product is combined with other materials, all component properties must be considered. **BE SURE TO CONSULT THE LATEST VERSION OF THE**

**MSDS. MATERIAL SAFETY DATA SHEETS ARE AVAILABLE FROM HARRIS PRODUCTS GROUP** Harris Products Group, HGE PTY LTD, Brisbane | Melbourne | Perth | New Zealand, 14 Queensland Rd, Darra, QLD 4076, Phone: (07) 3375 3670 | Fax: (07) 3375 3620, Email: sales@hgea.com.au, www.harrisproductsgroup.com.au,  
**STATEMENT OF LIABILITY-DISCLAIMER**

To the best of the Harris Products Group knowledge, the information and recommendations contained in this publication are reliable and accurate as of the date prepared. However, accuracy, suitability, or completeness are not guaranteed, and no warranty, guarantee, or representation, expressed or implied, is made by Harris Products Group. as to the absolute correctness or sufficiency of any representation contained in this and other publications; Harris Products Group assumes no responsibility in connection therewith; nor can it be assumed that all acceptable safety measures are contained in this and other publications, or that other or additional measures may not be required under particular or exceptional conditions or circumstances. Data may be changed from time to time.

[ End of SDS ]