THE HARRIS PRODUCTS GROUP

Reviewed on 04/04/2022

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 # 004

Recommended use and restriction on use
Recommended use: Flux Brazing or Soldering
Restrictions on use: None known.

Manufacturer/Importer/Supplier/Distributor information
Importer:
NEW ZEALAND
Harris Products Group
Unit 16, 232 Ellis St
Frankton, Hamilton
New Zealand 3204
(06) 83405875
Safety Data Sheet Questions: sales@harrisnz.com
Website: http://www.harrisproductsgroup.co.nz

New Zealand National Poisons Centre/Helpline (24 hours) 0800 POISON (0800 764 766)
Fire Service - Ambulance – 111

AUSTRALIA
Harris Products Group
14 Queensland Rd
Darra, QLD, Australia 4076
(07) 33753670
Safety Data Sheet Questions: sales@hgea.com.au
Website: http://www.harrisproductsgroup.com.au

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

Physical hazards	Not classified for physical hazards.
Health hazards	Harmful by inhalation, in contact with skin and if swallowed.
Environmental hazards	Not classified for hazards to the environment.

(Contd. on page 2)

Specific hazards 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.

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

Label elements
Contains **Formula Colour –** Green, White – **contains** Potassium fluorosilicate
Black – **contains** 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%

(Contd. on page 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.
I**nformation 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

(Contd. on page 4)

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^3	STEL ppm	STEL mg/m^3
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

(Contd. on page 5)

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

Appearance	Green, white or black powder	**Physical State**	Solid
Odour	Not Available	**Flammability**	Not Available
Odour Threshold	Not Available	**Flash Point**	Not Available
pH	Not Applicable	**Auto Igniting**	Not Available
Melting point/range	Not Available	**Solubility water**	Near complete

(Contd. on page 6)

Vapour Pressure, mmHg@980°C	Not Available	**Flash Point**	Not Available
Vapour Density	Not Available	**Density at 20°C (68°F)**	Not Applicable
Boiling Point & boiling range	Not Available	**Evaporation Rate**	Not Available
Freezing/Melting Point	Not Available	**Specific Gravity @200C (water = 1)**	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.

(Contd. on page 7)

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:

CAS#	Ingredient	Result	Species	Exposure
7440-42-8	Boron	LC50 79.7 mg/l	Fish	96 Hours
14075-53-7	Potassium fluoborate	No Data Available		

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.

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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 Codie of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

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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 (ACGIIH)

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/m³ (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.

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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,
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[End of SDS]