



Reviewed on 04/04/2022

Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Harris 17 Brazing Flux

Other means of identification: Paste Flux in a 226gm Jar

SDS # 0005

Recommended use and restriction on use: Clean dirt, oil, or other residue from parts prior to flux application. Harris 17 flux should be brushed on the joint surfaces and adjacent areas prior to heating. If flux becomes dry incrementally add small amounts of water to form a smooth paste.

Recommended use: Harris 17 flux is an all-purpose paste flux for use with bronze alloys (Harris 15) and nickel silver alloys (Harris 17 or 170). This highly active flux can be used in help in the brazing process for steel, cast irons and copper base alloys. Residues may be removed with a hot water rinse leaving a bright, clean, and strong porosity free brazed joint.

Restrictions on use: No further relevant information available.

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)

EMERGENCY OVERVIEW. Being a paste, spillage is limited and air contamination is limited. If the paste or clothing contaminated with the paste is allowed to remain in contact with skin for minutes or hours, serious injury may occur, such as irritation and blistering.

GHS Classification(s) Health – Eye Irritant: Category 1

Skin corrosion/irritation: Category 1

Label elements

Signal word

DANGER**Hazard pictograms****GHS05****GHS07****GHS08****Hazard Statement(s)**

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H360	May damage fertility or the unborn child

Prevention Statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well ventilated area.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash thoroughly after handling.

Response statement(s):

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF
P304 + P340	INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + 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
P310	Immediately call a POISON CENTER or doctor/physician
P321	Specific treatment is advised - see first aid instructions.
P363	Wash contaminated clothing before reuse.

Storage Statement(s): Store Locked Up**Disposal Statement(s):** Dispose of contents/container in accordance with relevant regulations.**Other Hazards** No information provided**Additional information:****Other hazards which do not result in GHS classification:** None established**Hazard description:****WHMIS-symbols:** Not hazardous under WHMIS.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture: consisting of the following components. Harris flux chemistry is proprietary information.

Substances/Mixtures		
CAS	Ingredient	Proportion
1303-96-4	Borax (sodium borate)	Nominal Composition
10043-35-3	Boric Acid (Orthoboric acid)	Nominal Composition

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: EMERGENCY OVERVIEW. Being a paste, spillage is limited and air contamination is limited. If the paste or clothing contaminated with the paste is allowed to remain in contact with skin for minutes or hours, serious injury may occur, such as irritation and blistering.

Inhalation:

Fresh air, rest.

Skin contact:

Remove contaminated clothing and launder before reuse. Wash skin with soap and water.

Eye contact:

Flush with clean water for 20 - 30 minutes, seek medical advice.

Ingestion:

For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. In case of this unlikely event, administer antacids (not sodium bicarbonate). Do not induce vomiting (to avoid getting material into the lungs) and obtain medical help immediately.

Information for doctor: Treat Symptomatically

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

5 Fire-fighting measures

Extinguishing media

Water, dry chemicals, foam, use self-container breathing apparatus when involved in fire.

Special hazards arising from the substance or mixture

Borane/boron oxides

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Additional information:

Decomposes above 100 °C . This produces [water](#) and irritant [boric anhydride](#). The solution in [water](#) is a weak acid. Attacks metals. This produces [hydrogen](#). This generates fire and explosion hazard.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of [water](#).

Environmental precautions:

Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up:

SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with [water](#), then transfer the dampened material to a suitable container. Use absorbent paper dampened with [water](#) to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and [water](#) solution. Do not re-enter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

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

Provide adequate ventilation. Do not ingest. Do not breathe mist or vapour. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using do not eat or drink. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid release to the environment. Observe good industrial hygiene practices. Read and understand the manufacturer's instruction and the precautionary label on the product. See the Australian Standard - AS 1674.1 – 1997 – Reconfirmed 2016. Safety in Welding and Allied Processes Australia.

Conditions for safe storage, including any incompatibilities

Storage:

Preserve in well-closed containers. Store in a cool dry place where moisture will not collect on containers and where heat from equipment or the sun will not expose the product to temperature extremes.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Exposure Guidelines:

Refer to the Safe Environments risk management document – Welding Fume -

<http://www.safeenvironments.com.au/welding-fume/> The exposure standard refers to the publication by Work Safe Australia “Workplace Exposure Standard for Airborne Contaminants” with the Date of Effect being 22 December 2011. Work Safe Australia note that “exposure standards do not represent a fine dividing line between a healthy and unhealthy work environment. Natural biological variation and the range of individual susceptibilities mean that a small number of people might experience adverse health effects below the

exposure standard.

Exposure Standards					
CAS	Ingredient	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³
1303-96-4	Borax (sodium borate)		5		
10043-35-3	Boric Acid (Orthoboric acid)		2		6

Reference: ACGIH Biological Exposure Indices

Refer to Worksafe Australia for standards:

http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/639/Workplace_Exposure_Standards_for_Airborne_Contaminants.pdf

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Engineering controls: No further relevant information available.

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.

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. Use triple gloves for spill response.

Eye protection:



Wear safety glasses with side shields (or goggles). When these products are used in conjunction with soldering, it is recommended that safety glasses, goggles, or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting") be worn.

Body protection: Protective work clothing



9 Physical and chemical properties

Information on basic physical and chemical properties

General Information: Activity range 760 – 1204 C

Appearance	White Paste	Physical State	Paste
Odour	Odourless	Flammability	Not Available
Odour Threshold	Not Available	Flash Point	Not Available
pH	Not Available	Auto Igniting	Not Available
Melting point/range	171C	Solubility water	In hot water
Vapour Pressure, mmHg@980°C	Not Available	Flash Point	Non-flammable
Vapour Density	Not Available	Density at 20°C (68°F)	1.5 g/cu cm
Boiling Point & boiling range	300C	Evaporation Rate	Not Available
Freezing/Melting Point	Not Available	Specific Gravity @200C (water = 1)	Not Available

10 Stability and reactivity

Reactivity: BORIC ACID is a very weak acid. Incompatible with alkali carbonates and hydroxides. During an attempt to make triacetyl borate, a mixture of boric acid and [acetic anhydride](#) exploded when heated to 58-60°C [Chem. Eng. News 51:(34) 1973]. Reacts violently with the strong reducing agent [potassium](#) metal.

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

Possibility of hazardous reactions: Polymerization is not expected to occur.

Conditions to avoid: Avoid inadvertent contact with metals.

Incompatible materials: Potassium & acetic anhydride when heated to 58-60 deg c.

Hazardous decomposition products: Hydrogen chloride and chlorine with incomplete combustion

11 Toxicological information

Toxicity – Animal and Human Species				
CAS	Ingredient	Oral Toxicity LC50 – Animal LDLo - Human	Intraperitoneal Toxicity LC50	Inhalation Toxicity LC50 – Animal LDLo - Human
1303-96-4	Borax (sodium borate)	Rat 5660 mg/kg		Rat 2.03 mg/l
10043-35-3	Boric Acid (Orthoboric acid)	Acute Oral Rat 2660 mg/kg		Rat >0.16 mg/L 4 hrs Women Oral 400 mg/kg

Information on toxicological effects:

Acute toxicity:

Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Prolonged inhalation may be harmful. Liver and kidney effects are only expected to occur if exposure concentrations are very high.

Skin Contact:

Causes severe skin burns, irritation on skin.

Eye Contact:

Causes eye damage on contact.

Respiratory sensitisation:

This product is expected to cause skin/respiratory tract sensitisation.

Aspiration:

Not a respiratory sensitiser.

Inhalation:

Harmful if inhaled. May cause respiratory tract irritation. Prolonged inhalation may be harmful.

Carcinogenicity:

Not applicable

STOT – single exposure:

Not classified

STOT – repeated exposure:

Not classified

12 Ecological information

CAS#	Ingredient	Result – LC50	Species	Exposure
1303-96-4	Borax (sodium borate)	340 mg/L 1085-1402 mg/L	Fish Water Flea	96 hrs 48 hrs
10043-35-3	Boric Acid (Orthoboric acid)	Ptychoncheilus Lucius – 279mg/l Daphnia magna – 53,2 mg/l	Fish Water Flea	96 hrs 21 d

Ecotoxicity: Do not allow product to reach ground water, water course or sewer. Because of the low pH of this product, it would be expected produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. Ensure appropriate measures are taken to prevent this product from entering the environment.

Persistence and Degradability: No data available

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

Mobility in soil: No data available.

Other adverse effects: No data is available on the degradability of this product

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.

14 Transport Information

Other than limited quantities the following would apply:

UN-Number DOT, ADR, ADN, IMDG, IATA	N/A
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	N/A
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	N/A

Packing group DOT, ADR, IMDG, IATA	II
Environmental hazards: Marine pollutant:	No
Special precautions for user Hazard Identification # Hazchem code ADG	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: ARCAL Compound 302

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/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.

WARNING: PRODUCT COMPONENTS PRESENT HEALTH AND SAFETY HAZARDS. READ AND UNDERSTAND THIS SAFETY DATA SHEET (S.D.S.). 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 SDS. 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]