



Harris Products Group
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Safety Data Sheet

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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PART I *What is the material and what do I need to know in an emergency?*

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	HARRIS 15 & 40 LFB / FC
CHEMICAL NAME/CLASS:	Metal Alloy
SYNONYMS:	Not Applicable
PRODUCT USE:	Metal Brazing
DOCUMENT NUMBER:	0123
SUPPLIER/MANUFACTURER'S NAME:	HARRIS PRODUCTS GROUP
ADDRESS:	14 Queensland Rd, Darra, QLD, Australia 4076
EMERGENCY PHONE:	000 - Australia 111 - New Zealand
BUSINESS PHONE:	(07) 33753670
DATE OF PREPARATION:	July 20, 2010

2. NOMINAL COMPOSITION and INFORMATION ON INGREDIENTS

These products consist of metal rods, some with a thin coating of flux on them. The exact amount of coating on each rod is unknown. It can be reasonably estimated that there is less than 1% of each of the flux constituents present on any given rod when compared to the mass of the rod itself. The composition values given for the flux coating are the composition of the flux when the rods are flux-coated.

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH-TLV		OSHA-PEL		IDLH mg/m ³	OTHER mg/m ³
			TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³		

COMPONENT 1: METAL RODS

CHEMICAL NAME	CAS #	% w/w	ACGIH-TLV	OSHA-PEL	IDLH	OTHER
Copper (exposure limits are for "Copper fume, as Cu")	7440-50-8	56-62	0.2 (fume) 1 (dusts & mists)	NE 0.1 (fume) 1 (dusts & mists)	NE 100	NIOSH REL: TWA = 0.1 DFG MAK: TWA = 0.1 (Inhalable Fraction) PEAK = 2•MAK 30 min., average value Carcinogen: EPA-D

NE = Not Established. See Section 16 for Definitions of Terms Used.

NOTE (1): The ACGIH has an established exposure limit for Welding Fumes, Not Otherwise Classified. The Threshold Limit Value is 5 mg/m³. NIOSH classifies welding fumes as carcinogens. Single values shown are maximum, unless otherwise noted.

NOTE (2): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

2. NOMINAL COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH-TLV		OSHA-PEL		NIOSH IDLH mg/m ³	OTHER mg/m ³
			TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³		

COMPONENT 1: METAL RODS (continued)

Zinc Exposure limits given are for Zinc oxide, Fume & Dust	7440-66-6	Balance	5 (fume) 10 (dust)	10 (fume)	5 (fume) 5 (total dust) 15 (dust, respirable dust) 5 (dust, respirable dust, Vacated 1989 PEL)	10 (fume, Vacated 1989 PEL)	500	NIOSH RELS: TWA = 5 (fume & dusts) STEL = 10 (fume), 15 (ceiling, 15 minutes, dusts) DFG MAKs: TWA = 1.5 (Respirable fraction, fume) Carcinogen: EPA-D
Tin	7440-31-5	0.30-1.5	2	NE	2	NE	100	NIOSH REL: 2
Manganese (exposure limits are for Manganese, elemental and inorganic compounds, and fume as Mn)	7439-96-5	0.50	0.2	NE	1 (vacated 1989 PEL)	5 (ceiling) 3 (vacated 1989 PEL)	500	NIOSH RELS: TWA = 1 STEL = 3 DFG MAK: TWA = 0.5 (Inhalable Fraction) PEAK = 10•MAK 30 min., average value DFG MAK Pregnancy Risk Classification: C Carcinogen: EPA-D
Iron (exposure limits are for iron oxide dust and fume [Fe ₂ O ₃], as Fe)	1309-37-1	1.0	5, A4 (Not Classifiable as a Human Carcinogen)	NE	10	NE	2500	NIOSH REL: TWA = 5 DFG MAK: TWA = 6 (Respirable Fraction) Carcinogen: IARC-3, TLV-A4
Silicon	7440-21-3	0.50	10	NE	15 (Total dust) 5 (Respirable fraction) 10 (Total dust) (vacated 1989 PEL)	NE	NE	NIOSH REL: TWA = 10 (Total dust; 5 (Respirable fraction))

COMPONENT 2: FLUX COATING ON RODS

Boric Acid	10043-35-3	50-80	NE	NE	NE	NE	NE	NE
Methacrylate/Aliphatic & Naphthenic Hydrocarbon Compound	Proprietary		NE	NE	NE	NE	NE	NE
Borax Glass (the exposure limits are for Borates, anhydrous)	1303-96-4	10-30	1	NE	10 (Vacated 1989 PEL)	NE	NE	NIOSH REL: TWA = 1

NE = Not Established. See Section 16 for Definitions of Terms Used.

NOTE (1): The ACGIH has an established exposure limit for Welding Fumes, Not Otherwise Classified. The Threshold Limit Value is 5 mg/m³. NIOSH classifies welding fumes as carcinogens. Single values shown are maximum, unless otherwise noted.

NOTE (2): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product consists of bare or coated, odorless, solid bronze rods. There are no immediate health hazards associated with this product. This product is not flammable nor reactive. If involved in a fire, this product may generate irritating fumes and a variety of metal oxides. Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.

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.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE:

During brazing operations, the most significant route of over-exposure is via inhalation of fumes.

INHALATION: Inhalation is not anticipated to be a significant route of over-exposure to the rods. Inhalation of large amounts of particulates generated by this product during metal processing operations may result in irritation. Inhalation of copper oxide and zinc oxide fumes can cause metal fume fever. Initial symptoms of metal fume fever can include a metallic or sweet taste in the mouth, dryness or irritation of the throat, and coughing. Later symptoms (after 4-48 hours) can include sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, and tiredness. Repeated over-exposures, via inhalation, to the dusts or fumes generated by this product during brazing operations may have adverse effects on the lungs with possible pulmonary edema and emphysema (life-threatening lung injuries). Chronic over-exposure to Copper dust may cause tiredness, stuffiness, diarrhea, and vomiting. Refer to Section 10 (Stability and Reactivity) for information on the specific composition of brazing fumes and gases.

CONTACT WITH SKIN or EYES: Contact of the rod form of this product with the skin is not anticipated to be irritating. Rare cases of allergic contact dermatitis have been reported in people working with copper dust. Contact with the rod form of this product can be physically damaging to the eye (i.e., foreign object). Fumes generated during brazing operations can be irritating to the skin and eyes. Symptoms of skin over-exposure may include irritation and redness; prolonged or repeated skin over-exposures may lead to allergic contact dermatitis. Contact with the molten rods will burn contaminated skin or eyes.

SKIN ABSORPTION: Skin absorption is not known to be a significant route of over-exposure for any component of this product.

INGESTION: Ingestion is not anticipated to be a route of occupational exposure for this product.

INJECTION: Though not a likely route of occupational exposure for this product, injection (via punctures or lacerations in the skin) may cause local reddening, tissue swelling, and discomfort.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Symptoms associated with over-exposure to this product and the fumes generated during brazing operations are as follows:

ACUTE: The chief acute health hazard associated with this product would be the potential for irritation of contaminated skin and eyes when exposed to fumes during brazing operations. Inhalation of large amounts of particulates generated by this product during metal processing operations may result in irritation. Inhalation of copper oxide and zinc oxide fumes can cause metal fume fever. Inhalation of large amounts of particulates generated by this product during metal processing operations can result in pneumoconiosis (a disease of the lungs). Contact with the molten material will burn contaminated skin or eyes. Severe ingestion over-exposure to Copper (a component of this product) may be fatal.

CHRONIC: Chronic skin over-exposure to the fumes of this product during brazing operations may produce dermatitis (red, inflamed skin). Chronic over-exposure to Copper dust may cause tiredness, stuffiness, diarrhea, vomiting, discoloration of the skin and eyes, and kidney and liver disorder. Additionally, rare cases of allergic contact dermatitis have been reported in people working with copper dust. Refer to Section 11 (Toxicological Information) for further information.

TARGET ORGANS: For fumes: Skin, eyes, respiratory system, kidney and liver.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM			
HEALTH		(BLUE)	0
FLAMMABILITY		(RED)	0
REACTIVITY		(YELLOW)	0
PROTECTIVE EQUIPMENT			X
EYES	RESPIRATORY	HANDS	BODY
	See Section 8		See Section 8
For routine industrial applications for the rods			

See Section 16 for Definition of Ratings

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

SKIN EXPOSURE: If fumes generated by Brazing operations involving this product contaminate the skin, begin decontamination with running water. If molten material contaminates the skin, immediately begin decontamination with cold, running water. Minimum flushing is for 15 minutes. Victim must seek medical attention if any adverse reaction occurs.

EYE EXPOSURE: If fumes generated by Brazing operations involving this product enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek immediate medical attention.

INHALATION: If fumes generated by Brazing operations involving this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

INGESTION: Ingestion is not a likely route of exposure for the rods. If the flux is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR THE MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconsciousness, having convulsions, or unable to swallow.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory disorders, pancreas and liver disorders may be aggravated by prolonged over-exposures to the dusts or fumes generated by these products.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not flammable.

AUTOIGNITION TEMPERATURE: Not flammable.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS:

Water Spray: YES

Halon: YES

Dry Chemical: YES

Carbon Dioxide: YES

Foam: YES

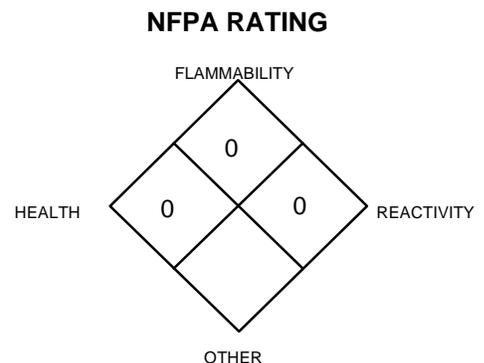
Other: Any "ABC" Class

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this product may generate irritating fumes and a variety of metal compounds. The molten material can present a significant thermal hazard to firefighters.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Not applicable for these products.



**See Section 16 for
Definition of Ratings**

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Not applicable

PART III *How can I prevent hazardous situations from occurring*

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this product. Use in a well ventilated location. Use ventilation and other engineering controls to minimize potential exposure to this product.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid breathing fumes of this product during brazing operations. Open containers on a stable surface. Packages of this product must be properly labeled. When this product is used during brazing operations, Read and understand the manufacturer's instruction and the precautionary label on the product. Refer to Lincoln Safety Publications at www.lincolnelectric.com/safety. See the Australian Standard - AS 1674.1 – 1997 – Reconfirmed 2016. Safety in Welding and Allied Processes Australia.

7. HANDLING and STORAGE (Continued)

STORAGE AND HANDLING PRACTICES (continued): Store packages in a cool, dry location. Storage in an atmosphere that is wet, moist, or highly humid may lead to corrosion of this product. Store away from incompatible materials (see Section 10, Stability and Reactivity).

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Not applicable.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in Section 2 (Composition and Information on Ingredients). Prudent practice is to ensure eyewash/safety shower stations are available near areas where this product is used.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed (i.e., a Weld Fume Respirator or Air-Line Respirator for brazing in confined spaces), use only protection authorized in 29 CFR 1910.134 or applicable State regulations. Respiratory Protection is recommended to be worn during brazing operations. Use supplied air respiration protection if oxygen levels are below 19.5% or are unknown. The following are NIOSH recommendations for respirator selection for welding fumes (which would also be applicable for brazing operations), based on NIOSH REL:

CONCENTRATION RESPIRATORY EQUIPMENT FOR WELDING FUMES

At Concentrations above the NIOSH REL, or where there is no REL, at any Detectable Concentration: Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode; or any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape: Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having a high-efficiency particulate filter; or any appropriate escape-type, self-contained breathing apparatus

NOTE: IDLH Concentration: Potential NIOSH carcinogen. [Not determined yet].

EYE PROTECTION: Safety glasses. When these products are used in conjunction with Brazing, wear safety glasses, goggles, or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting"). If necessary, refer to U.S. OSHA 29 CFR 1910.133, or appropriate Canadian Standards.

HAND PROTECTION: Wear gloves for routine industrial use. When these products are used in conjunction with Brazing, wear gloves that protect from sparks and flame (per ANSI Z49.1-1988, "Safety in Welding and Cutting"). If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate for task. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, as described in U.S. OSHA 29 CFR 1910.136.

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."

9. PHYSICAL and CHEMICAL PROPERTIES

The following information is for Copper, a main component of this product, unless otherwise indicated:

RELATIVE VAPOR DENSITY (air = 1): Not applicable.

SPECIFIC GRAVITY (water = 1): 8.3-8.5 g/cc (For product)

SOLUBILITY IN WATER: Insoluble.

VAPOR PRESSURE, mm Hg @ 20°C: Not applicable.

FREEZING/MELTING POINT: 1600-1900°C (871-1038°F) [For product]

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not applicable.

EVAPORATION RATE (nBuAc = 1): Not applicable.

pH: Not applicable.

ODOR THRESHOLD: Not applicable.

BOILING POINT: 2595°C (4703°F)

The following information is for Zinc, a main component of this product:

RELATIVE VAPOR DENSITY (air = 1): Not applicable.

SPECIFIC GRAVITY (water = 1): 7.14

SOLUBILITY IN WATER: Insoluble.

VAPOR PRESSURE, mm Hg @ 20°C: Not applicable.

FREEZING/MELTING POINT: 149°C (786°F)

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not applicable

EVAPORATION RATE (nBuAc = 1): Not applicable.

pH: Not applicable.

ODOR THRESHOLD: Not applicable.

BOILING POINT: 907°C (1665°F)

The following information is for the product:

APPEARANCE AND COLOR: This product consists of bare or coated, odorless bronze rods.

HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance is a distinctive characteristic of this product.

10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Thermal decomposition products can include copper and zinc compounds and a variety of metal oxides.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong acids, strong oxidizers, some halogenated compounds.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Uncontrolled exposure to extreme temperatures, incompatible materials.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: Presented below are human toxicological data available for the components of this product present in concentration greater than 1%. Other data for animals are available for the components of this product, but are not presented in this Material Safety Data Sheet.

BORIC ACID:

Skin Irritancy (human) = 15 mg/ 3 days/
intermittent; mild

LD (oral, human) = 37 mg/kg/ boron as boric acid

LD (skin, infant) = 210 mg/kg/ boron as boric acid

TDLo (oral, child) = 500 mg/kg; gastrointestinal
effects

LDLo (oral, man) = 429 mg/kg; cardiovascular,
systemic effects

LDLo (oral, woman) = 200 mg/kg

BORIC ACID (continued):

TDLo (oral, infant) = 800 mg/kg/ 4 weeks/
intermittent

LDLo (oral, infant) = 934 mg/kg

LDLo (skin, infant) = 1200 mg/kg

LDLo (skin, child) = 4000 mg/kg/ 4 days

LDLo (skin, man) = 2430 mg/kg

LDLo (skin, child) = 1500 mg/kg

LDLo (subcutaneous, infant) = 1100 mg/kg

TDLo (unreported, man) = 170 mg/kg;
gastrointestinal effects

LDLo (unreported, man) = 147 mg/kg

COPPER:

TDLo (oral, human) = 120 µg/kg; gastrointestinal
tract effects

ZINC:

Skin Irritancy (human) = 300 µg/ 3 days/
intermittent; mild

TCLo (inhalation, human) = 124 mg/m³/ 50
minutes; pulmonary system, skin effects

SUSPECTED CANCER AGENT: The components of this product are listed as follows:

MANGANESE: EPA-D, Not Classifiable as to Human Carcinogenicity (inadequate human and animal evidence of carcinogenicity or no data available).

COPPER: EPA-D, Not Classifiable as to Human Carcinogenicity (inadequate human and animal evidence of carcinogenicity or no data available).

The other components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product's dusts or fumes may be irritating to contaminated skin and eyes. Fumes may be irritating to the respiratory system.

SENSITIZATION TO THE PRODUCT: Rare cases of allergic contact dermatitis have been reported in people working with copper dust.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans. Animal mutation data are available for the Boric Acid component of this product; these data were obtained during clinical studies on specific animal tissues exposed to high doses of this compound.

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to cause teratogenic effects in humans. Clinical studies on test animals exposed to relatively high doses of the Copper component of this product indicate teratogenic effects.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans. Clinical studies on test animals exposed to relatively high doses of the Boric Acid and Copper components of this product indicate adverse reproductive effects.

A mutagen is a chemical, which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical, which causes damage to a developing embryo (i.e., within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical, which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance, which interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES: Currently, there are no Biological Exposure Indices (BEIs) associated with the components of this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory disorders, kidney and liver disorders may be aggravated by prolonged over-exposures to the dusts or fumes generated by this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product are expected to persist in the environment for an extended period of time. Copper and Zinc will react with water and air to form a variety of stable oxides. Additional environmental data are available as follows:

ZINC: Solubility: Insoluble in water. Biological Half-Life for normal humans 162-500 days. Bioconcentration: The Bioconcentration Factor in edible portions of *Crassostrea virginica*, adult oyster) is 16,700 (total zinc).

COPPER: Solubility: Insoluble. There is no evidence of any biotransformation for copper compounds. Copper is accumulated by all plants and animals. BCF Algae = 12; plants = 1,000; invertebrate = 1,000, fish = 667 and fish =200(Soluble copper salts).

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product is not expected to cause adverse effects on plant or animal life. Specific data on test animals are available but are not presented in this Material Safety Data Sheet.

EFFECT OF CHEMICAL ON AQUATIC LIFE: This product may cause adverse effects on aquatic life. Additional environmental data are available as follows:

BORIC ACID:

LC₅₀ (trout eggs) = 100 ppm/ soft

LC₅₀ (trout eggs) = 79 ppm/ hard

LC₅₀ (catfish eggs) = 155 ppm/ soft

LC₅₀ (catfish eggs) = 22 ppm/ hard

LC₅₀ (goldfish eggs) = 46 ppm/ soft

LC₅₀ (goldfish eggs) = 75 ppm/ hard

LC₅₀ (*Daphnia magna*) = 133 mg/L/ 48 hours

COPPER: Copper is concentrated by plankton by 1000 or more. Copper may concentrate to toxic levels in the food chain.

ZINC: Odorless zinc poisoning causes inflamed gills in fish. Laboratory studies of Atlantic salmon, rainbow trout, carp, and goldfish have shown avoidance reactions by these fish to zinc in water.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

EPA WASTE NUMBER: Not applicable to waste consisting only of this product.

14. TRANSPORTATION INFORMATION

THIS PRODUCT IS NOT HAZARDOUS (Per 49 CFR 172.101) BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Not applicable.

HAZARD CLASS NUMBER and DESCRIPTION: Not applicable.

UN IDENTIFICATION NUMBER: Not applicable.

PACKING GROUP: Not applicable.

DOT LABEL(S) REQUIRED: Not applicable.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 2000: Not applicable.

MARINE POLLUTANT: No component of this product is designated as a marine pollutant by the Department of Transportation (49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not considered as dangerous goods, per regulations of Transport Canada.

15. REGULATORY INFORMATION

Product Name: HARRIS 15 & 40 LFB / FC

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.

[End of SDS]

