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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1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	**STAY CLEAN® ALUMINUM FLUX** Organic Amine
CHEMICAL NAME/CLASS:	Mixture
SYNONYMS:	Not Applicable
PRODUCT USE:	Soldering Operations
DOCUMENT NUMBER:	0138
SUPPLIER/MANUFACTURER'S NAME:	**HARRIS PRODUCTS GROUP.**
ADDRESS:	14 Queensland Rd, Darra, QLD, Australia 4076
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DATE OF PREPARATION:	01/01/2017

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH-TLV		OSHA-PEL		NIOSH	OTHER
			TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	IDLH mg/m^3	mg/m^3
Triethanolamine	102-71-6	30-60	5	NE	NE	NE	NE	NE
Aminoethylethanolamine	111-41-1	35	NE	NE	NE	NE	NE	NE
Ammonium Fluoborate Exposure limits are for inorganic, solid Fluoride compounds, as F	13826-83-0	20	2.5	NE	2.5	NE	250	DFG MAKs: TWA = 2.5 (Inhalable Fraction) PEAK = 5•MAK 30 min., average value Carcinogen: IARC-3, TLV-A4
Tin, Metal	7440-31-5	10	2	NE	2	NE	100 (as Sn)	NIOSH REL: TWA = 2

NE = Not Established. See Section 16 for Definitions of Terms Used. Single values are maximum, unless otherwise noted.

NOTE (1): 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. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH-TLV		OSHA-PEL		NIOSH	OTHER
			TWA mg/m^3	STEL mg/m^3	PEL mg/m^3	STEL mg/m^3	IDLH mg/m^3	mg/m^3
Zinc Oxide Exposure limits given are for dust and fume.	1314-13-2	10	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
Zinc (exposure limits are for zinc oxide, fume & dust)	7440-66-6	5	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

NE = Not Established. See Section 16 for Definitions of Terms Used. Single values are maximum, unless otherwise noted.

NOTE (1): 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 is a viscous, amber liquid with a strong ammonia odor. This product is a primary irritant and can be mildly to moderately irritating to contaminated tissue (depending on the concentration and duration of contact); prolonged contact may result in tissue damage and skin sensitization. This product must be substantially pre-heated before ignition can occur. Thermal decomposition of this product will produce toxic fumes and vapors or zinc oxides, fluoride compounds, carbon monoxide, carbon dioxide and oxides of nitrogen and tin. This product is not reactive. 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: The most significant routes of over-exposure for this product are inhalation of fumes generated during use and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

INHALATION: Inhalation of large amounts of particulates generated by these products during soldering operations may be physically irritating and cause deposits of dust in nasal passages. Heating of this product during soldering operations will result in irritating fumes from the Triethanolamine component of this product. Symptoms of exposure to these fumes may include coughing, and irritation of throat and nose. In addition, metal fume fever can be caused by inhalation of zinc oxide fumes formed in air from soldering or heating of zinc metal and zinc oxide. Symptoms of metal fume fever include flu-like symptoms, metallic taste, fever, chills, cough, weakness, chest pain, muscle pain, cardiac abnormalities, and increased white blood cell count. Damage to lungs can occur. Some workers develop a short-term resistance after continuous, repeated exposure to zinc oxide fumes and subsequent symptoms of metal fume fever. This resistance to the effects of metal fume fever produced by Zinc Oxide is quickly lost after short absence from exposure. Thermal decomposition of the Ammonium Fluoborate component of this product can evolve fluoride compounds, which are potentially damaging to tissues of the respiratory system, and in high concentration can cause hypercalcmia, a condition of excess calcium in the blood.

3. HAZARD IDENTIFICATION (Continued)

CONTACT WITH SKIN or EYES: This product is mildly to moderately irritating to the skin. Prolonged skin contact can result in tissue damage. Triethanolamine, a component of this product, is a skin sensitizer. When heated to decomposition, this product can evolve fluoride compounds, which, in high concentration can cause burns, penetrating to bone. Repeated or prolonged exposures to the flux, especially in high concentrations, can cause allergy-like symptoms (e.g., rashes, welts) and dermatitis (dry, red, cracked skin). If the flux enters the eyes, mild irritation may occur and result in redness and watering. Severe contact exposures may result in damage to the cornea and other eye tissue. Note: If the product is heated before use, and the temperature of the heated product will be above 37°C (100°F); skin or eye contact with the heated product can result in thermal burns.

SKIN ABSORPTION: Skin absorption is not anticipated to be a significant route of over-exposure to the components of this product; however, thermal decomposition of this product can result in the production of fluoride compounds, which can penetrate intact skin. In cases of serious contamination with residue from thermal decomposition, burns that penetrate to the bone can occur.

INGESTION: If this flux is ingested, nausea, vomiting, and diarrhea may occur (depending on the amount of the product swallowed). Severe ingestion exposures may result in damage to the tissues of the gastrointestinal system, shock, cardiac disturbances, vasomotor depression (depression of the contraction and dilation of blood vessels) hypocalcemia, and death.

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

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH	(BLUE)	2
FLAMMABILITY	(RED)	1
REACTIVITY	(YELLOW)	0
PROTECTIVE EQUIPMENT		C/D

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8

For routine applications.

See Section 16 for Definition of Ratings

OTHER HEALTH EFFECTS: Repeated or chronic exposure to this product via inhalation and ingestion may result in damage to the kidneys and liver (based on animal studies), due to the presence of Triethanolamine.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Symptoms associated with over-exposure to this product are as follows:

ACUTE: The chief acute health hazards associated with this product would be the potential for mild to moderate irritation of contaminated skin and eyes. Prolonged contact to product or to decomposition products may cause burns and in extreme cases, may result in fluoride poisoning (hypercalcemia). Though unlikely to occur during occupational use, ingestion of large quantities may be fatal.

CHRONIC: Chronic skin over-exposure to this product during soldering operations may produce dermatitis (red, inflamed skin). The product contains a skin sensitizer; repeated or prolonged exposures to the flux, especially in large quantities can cause allergy-like symptoms (i.e., rashes, welts). Chronic overexposure to this product via ingestion or inhalation may result in damage to the kidneys and liver. Refer to Section 11 (Toxicological Information) for additional data on the components of this product.

TARGET ORGANS: ACUTE: Eyes, skin, respiratory system. CHRONIC: Skin, liver, kidneys, bones.

4. FIRST-AID MEASURES

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

SKIN EXPOSURE: In the event of skin-over-exposure, rinse affected area with a soap and water solution. If skin contact results in irritation, the minimum flushing is for 15 minutes. Victim must seek medical attention if adverse health effects occur, or if skin contact has resulted in a thermal burn.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention if adverse health effects occur, or if eye contact has resulted in a thermal burn.

INHALATION: If this product is inhaled, remove victim to fresh air. Have victim blow nose.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water, if conscious. If victim vomits naturally, position head lower than chest to prevent aspiration into the lungs. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow.

4. FIRST-AID MEASURES (Continued)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disorders and other conditions of the Target Organs (see Section 3, Hazard Identification) may be aggravated by prolonged over-exposures to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure. If exposure has resulted in hypercalcemia, treatment with calcium gluconate should be administered.

5. FIRE-FIGHTING MEASURES

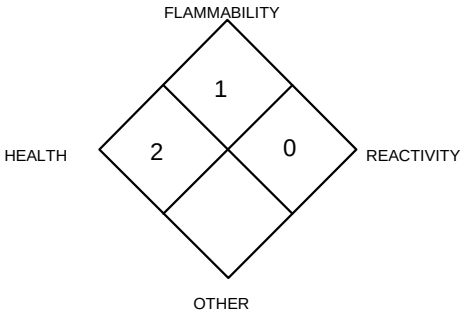
FLASH POINT (Closed Cup): 179-185°C (354-365°F) [for Triethanolamine]
AUTOIGNITION TEMPERATURE: Not determined.
FLAMMABLE LIMITS (in air by volume, %):
Lower (LEL): Not applicable.
Upper (UEL): Not applicable.
FIRE EXTINGUISHING MATERIALS:

Water Spray: YES (for cooling)
Halon: YES
Dry Chemical: YES
Carbon Dioxide: YES
Foam: YES
Other: Any "ABC" Class.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is a primary irritant and presents a potential contact hazard to firefighters. This product must be substantially preheated before ignition can occur. During a fire, irritating and toxic gases (i.e. carbon monoxide, carbon dioxide, fluoride and zinc compounds, oxides of tin and nitrogen) may be generated.

Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: Not sensitive.

NFPA RATING



See Section 16 for Definition of Ratings

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers if it can be done without risk to firefighters. If possible, firefighters should control run-off water to prevent environmental contamination. Rinse contaminated equipment with soapy water before returning such equipment to service.

Additional information
Read and understand the Work Safe Australia Code of Practice on Welding Processes and "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" before using this product. Section 274 of the Work Health and Safety Act (the WHS Act.)

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a large, uncontrolled release, clear the affected area and protect people. In the event of a non-incidental release of this product, minimum Personal Protective Equipment should be **Level D: gloves (rubber gloves over latex gloves), safety goggles, face-shield, and appropriate body protection. Level C (which includes an air-Purifying Respirator with an organic vapor cartridge) should be worn in the event excessive splashes or sprays will be generated. Level B Protection (which includes Self-Contained Breathing Apparatus) during spill response situations in which the oxygen level is below 19.5% or is unknown.** Absorb spilled flux with polypads or other suitable absorbent. Rinse residue with soap and water solution. If the heated product has been spilled, allow the material to cool before clean-up procedures begin. Decontaminate the area thoroughly. Place all spilled residues in a suitable container and seal. DO NOT STORE THIS PRODUCT IN GLASS, OR EXPOSE IT TO OTHER SILICATE BASED MATERIAL. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations, or the appropriate Standards of Canada and its Provinces (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

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.

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after using this product. Do not eat, drink, smoke, or apply cosmetics while handling this product.
STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Standard safety practices associated with soldering operations should be followed when using this product. Open containers slowly, on a stable surface. Avoid the accidental exposure of this material to open flames, hot surfaces, or other sources of ignition. (continued on following page)

7. HANDLING and STORAGE (Continued)

STORAGE AND HANDLING PRACTICES (continued): Store this product in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. This product should not be stored in glass or other silicate-based containers, due to the presence of Ammonium Fluoborate. Store away from incompatible chemicals (see Section 10, Stability and Reactivity). Keep container tightly closed when not in use. Inspect all incoming containers before storage to ensure they are properly labeled and not damaged.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

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.

VENTILATION AND ENGINEERING CONTROLS: No special ventilation systems or engineering controls are normally required when using this product. Prudent practice is to ensure eyewash/safety shower stations are available near areas where this product is used.

RESPIRATORY PROTECTION: No respiratory protection is normally required when using this product.

CONCENTRATION	RESPIRATORY PROTECTION
Up to 12.5 mg/m^3:	Dust and mist respirator.
Up to 25 mg/m^3:	Dust and mist respirator except single-use and quarter-mask respirator; or SAR
Up to 62.5 mg/m^3:	SAR operated in a continuous-flow mode; or powered air- purifying respirator with dust and mist filters. UP TO 125 mg/m3: Full-facepiece respirator with high-efficiency particulate filter(s); or full-facepiece SCBA; or full-facepiece SAR. UP TO 250 mg/m3: Positive pressure, full-facepiece SAR.

Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA. .

Escape: Full-facepiece respirator with high-efficiency particulate filter; or escape-type SCBA.


EYE PROTECTION: Safety glasses or goggles. In the event, the heated product is used, or operations involve potential splashes and sprays, a face-shield is recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133, or appropriate Canadian Standards. If necessary, refer to U.S. OSHA 29 CFR 1910.138, or appropriate Standards of Canada.

HAND PROTECTION: Wear butyl rubber, nitrile rubber, or polyfluorinated polyethylene gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR 1910.138, or appropriate Standards of Canada.

BODY PROTECTION: None normally needed for normal circumstances of use. Use body protection appropriate for task (i.e. apron, coveralls, chemically resistant boots). 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, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): > 1.0
EVAPORATION RATE (nBuAc = 1): > 1
SPECIFIC GRAVITY (water = 1): Not established.
FREEZING/MELTING POINT: Not established.
SOLUBILITY IN WATER: Complete solubility.
BOILING POINT: Not established.
VAPOR PRESSURE, mm Hg @ 24°C: Not applicable.
pH: Not applicable.
ODOR THRESHOLD: Not applicable.
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not applicable.
APPEARANCE AND COLOR: This product is a viscous, amber liquid with a strong ammonia odor.
HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance and odor may act as distinguishing characteristics of this product in event of accidental release.

10. STABILITY and REACTIVITY

STABILITY: Stable.
DECOMPOSITION PRODUCTS: Carbon oxides, a variety organic molecules, tin compounds, zinc oxides, nitrogen oxides and ammonia.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is not compatible with strong oxidizing agents, strong acids, and strong bases. Due to the presence of Ammonium Fluoborate, this product is incompatible with glass or other silicate-based substances.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Avoid exposing this product to incompatible materials.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following human toxicological data are available for the components of this product. Other data for animals are available but are not presented in this Material Safety Data Sheet.

ZINC:
Skin Irritancy (human) = 300 mg/ 3 days/ intermittent; mild
TCLo (inhalation, human) = 124 mg/m^3/ 50 minutes; pulmonary system effects, skin

ZINC OXIDE:
LDLo (oral, human) = 500 mg/kg
TCLo (inhalation, human) = 6000 mg/m^3; pulmonary system effects

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

AMMONIUM FLUORBORATE (as a Barium Compound): EPA-D (Not Classifiable as to Human Carcinogenicity); EPA-NL (Not Likely to be Carcinogenic in Humans); ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen)

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

ZINC OXIDE: 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, CAL/OSHA, and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product is mildly to moderately irritating to contaminated tissue.

SENSITIZATION TO THE PRODUCT: The Triethanolamine component of the product is a skin sensitizer; subsequent contact with very small amounts of this product may result in allergic reaction in susceptible individuals, causing symptoms such as rashes, redness and welts.

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

Mutagenicity: This product is not reported to produce mutagenic effects in humans.
Embryotoxicity This product is not reported to produce embryotoxic effects in humans.
Teratogenicity: This product is not reported to cause teratogenic effects in humans.
Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

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.

ACGIH BIOLOGICAL EXPOSURE INDICES: Currently, there is an ACGIH Biological Exposure Index (BEIs) determined for Ammonium Fluoborate (as a fluoride).

CHEMICAL DETERMINANT	SAMPLING TIME	BEI
FLUORIDES		
• Fluorides in urine	• Prior to shift	• 3 mg/g creatinine
	• End of shift	• 10 mg/g creatinine

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: Metal components of this product will react with water and air to form a variety of stable metal oxides. Environmental data are available for the components of this product as follows:

AMINOETHYLETHANOLAMINE: K_{OW} = -1.39 (est.). Water Solubility: Miscible. BOD > 30%, 2 weeks. BCF = 0.05 (est). Aminoethylethananolamine does not bioconcentrate significantly in most aquatic organisms. Aminoethylethanolamine should be readily degraded by natural bacteria.

AMMONIUM FLUOBORATE: Water Solubility: 25 g/100 cc at 16°C; 97 g/100 cc at 100°C; 23.592 lb/100 lb at 80°C. BOD > 30%, 2 weeks. BCF = 0.05 (est). Ammonium Fluoborate compounds are biodegradable and will not accumulate in the food chain.

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

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product may be harmful to plant and animals, depending on the quantity and duration of over-exposure.

EFFECT OF CHEMICAL ON AQUATIC LIFE: This product may be harmful to aquatic lifeforms, depending on the quantity and duration of over-exposure. The following aquatic toxicity data are available for the components of this product:

AMMONIUM FLUOBORATE:
TLM (Mosquito fish) = 500 ppm/ 96 hours

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 Government, State, and local regulations, or the appropriate standards Australia 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.

14. TRANSPORTATION INFORMATION

THIS PRODUCT IS HAZARDOUS (Per 49 CFR 172.101) BY THE Australian DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:	Corrosive liquids, n.o.s.(Aminoethylethanolamine, Ammonium Fluoborate)
HAZARD CLASS NUMBER and DESCRIPTION:	8 (Corrosive)
UN IDENTIFICATION NUMBER:	UN 1760
PACKING GROUP:	PG III
DOT LABEL(S) REQUIRED:	8 (Corrosive)

15. REGULATORY INFORMATION

Product Name: STAY CLEAN® ALUMINUM FLUX Organic Amine

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)].

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
Ammonium Fluoborate	NO	YES	NO
Zinc	NO	YES	YES (fume or dust)
Zinc Oxide	NO	NO	YES (as Zinc Compound)

16. OTHER INFORMATION

References
Preparation of Safety Data Sheets for Hazardous Chemicals Codie of Practice
Standard for the Uniform Scheduling of Medicines and Poisons

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

[End of SDS]