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## Safety Data Sheet

### 1 IDENTIFICATION

#### Product identifier

**Trade name:** Solar Flux® Type B

**Other means of identification:** Powder Flux for Welding

SDS # 0083

#### Recommended use and restriction on use

**Recommended use:** Soldering Operations

**Restrictions on use:** No further relevant information available.

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

##### Importer:

NEW ZEALAND

Harris Products Group

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New Zealand 4110

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

**Website:** <http://www.harrisproductsgroup.co.nz>

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**Fire Service - Ambulance – 111**

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**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)**      Carc. 1A H350 May cause cancer.

**Label elements**

**Signal word**                      **DANGER**

#### Hazard pictograms



GHS08 Health Hazard

There are no other hazards not otherwise classified that have been identified. 0 % of the mixture consists of component(s) of unknown toxicity.

**Hazard Statement(s)**

**Hazard-determining components of labelling:**

Quartz (SiO<sub>2</sub>)

**Hazard statements:**

**H350** May cause cancer.

**Prevention Statement(s):**

**P201** Obtain special instructions before use.

**P202** Do not handle until all safety precautions have been read and understood.

**P280** Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s):**

**P308 + P313.** IF exposed or concerned: Get medical advice/ attention

**P310** Immediately call a POISON CENTER or doctor/physician

**Storage Statement(s):**

**P405** Store Locked Up

**Disposal Statement(s):**

**P501** 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:**

Electrical Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Arc rays can injure eyes and burn skin. Welding arc and sparks can ignite combustibles and flammable materials. Overexposure to welding fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product. Refer to Section 8.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

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

Sustances/Mixtures		
CAS	Ingredient	Proportion
14808-60-7	Quartz (SiO <sub>2</sub> )	6-12%
	Non Hazardous Ingredients	88-94%

**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:** Provide oxygen treatment if affected person has difficulty breathing.

#### After inhalation:

Move to fresh air if breathing is difficult. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.

#### After skin contact:

Remove contaminated clothing and wash the skin thoroughly with soap and water. For reddened or blistered skin, or thermal burns, obtain medical assistance at once.

#### After eye contact:

Dust or fume from this product should be flushed from the eyes with copious amounts of clean, tepid water until transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once.

#### After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

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

Nausea

Gastric or intestinal disorders when ingested.

Breathing difficulty

Coughing

#### Danger:

##### Carcinogenic.

Welding hazards are complex and may include physical and health hazards such as but not limited to electric shock, physical strains, radiation burns (eye flash), thermal burns due to hot metal or spatter and potential health effects of overexposure to welding fume or dust. Refer to Section 11 for more information.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

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## 5 Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing agents:

As shipped, the product will not burn. In case of fire in the surroundings: use appropriate extinguishing agent.

For metal fires: Use specific agents only.

**For safety reasons unsuitable extinguishing agents:** For metal fires: Use specific agents only.

#### Special hazards arising from the substance or mixture

Infrared radiation from flame or hot metal can ignite combustibles and flammable products.

#### Advice for firefighters

##### Special fire fighting procedures:

Use standard firefighting procedures and consider the hazards of other involved materials.

##### Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

#### 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.)

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## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8.

**Environmental precautions:**

Avoid release to the environment.  
Damp down dust with water spray.  
Prevent further leakage or spillage if safe to do so.

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

Clean up spills immediately, observing precautions in the personal protective equipment in Section 8. Avoid generating dust. Prevent product from entering any drains, sewers or water sources.  
Pick up mechanically.  
Send for recovery or disposal in suitable receptacles.

**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**

**Requirements to be met by storerooms and receptacles:**

Store in closed original container in a dry place. Store away from incompatible materials. Store in accordance with local/regional/national regulations.

**Information about storage in one common storage facility:** No special requirements.

**Further information about storage conditions:** No special requirements.

**Specific end use(s):** No 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 <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>
14808-60-7	Quartz (SiO <sub>2</sub> ) (dust)		0.1		

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](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

Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. Keep exposure as low as possible.

#### 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:



Thermally protective gloves

#### 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

Appearance	Silver coloured	Physical State	Powder
Odour	Odourless	Flammability	Not Available
Odour Threshold	Not Determined	Flash Point	Not Available
pH	Not Applicable	Auto Igniting	Not self igniting
Melting point/range	Not Determined	Solubility water	Partly soluble
Vapour Pressure	Not Applicable	Flash Point	Not Applicable
Vapour Density	Not Determined	Density at 20°C (68°F)	2.2 G/cm <sup>3</sup>
Boiling Point & boiling range	60°C	Evaporation Rate	Not Determined
Freezing/Melting Point	Not Available	Specific Gravity @200C (water = 1)	Not Available

## 10 Stability and reactivity

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

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

**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**Possibility of hazardous reactions:**

Reacts with strong acids and alkali.

Reacts with strong oxidizing agents.

As the product is supplied it is not capable of dust explosion; however, enrichment with fine dust causes risk of dust explosion.

**Conditions to avoid:** Prevent formation of dust.

**Incompatible materials:** No relevant information available.

**Hazardous decomposition products:**

Hazardous decomposition welding fumes and gases cannot be classified simply. The composition and products: quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapours from cleaning and degreasing activities.)

## 11 Toxicological information

Toxicity				
CAS	Ingredient	Oral Toxicity LD50	Intravenous Toxicity LD50	Inhalation Toxicity LD50
14808-60-7	Quartz (SiO <sub>2</sub> ) (dust)			>20mg/kg

**Information on toxicological effects:**

**Ingestion:** Possible route of exposure.

**Inhalation:**

Potential chronic health hazards related to the use of welding consumables are most applicable to the inhalation route of exposure.

**Skin Contact:** Arc rays can burn skin. Skin cancer has been reported.

**Eye Contact:** Arc rays can injure eyes.

**Information on toxicological effects**

**Inhalation**

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung), central nervous system effects, bronchitis and other pulmonary effects.

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:** None.

**Primary irritant effect:**

**On the skin:** Based on available data, the classification criteria are not met.

**On the eye:** Based on available data, the classification criteria are not met.

**Sensitization:** No sensitizing effects known.

**Other information relevant to carcinogenicity**

Cancerous lesions have been reported in persons exposed to arc rays.

**Repeated dose toxicity:**

Repeated or long-term inhalation of product dusts may cause pulmonary disease.

**CMR effects (carcinogenetic, mutagenicity and toxicity for reproduction)**

Carc. 1A

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** May cause cancer.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

**12 Ecological information****Toxicity**

**Aquatic toxicity:** No relevant information available.

**Persistence and degradability:** No relevant information available.

**Behaviour in environmental systems**

**Bioaccumulative potential:** No relevant information available.

**Mobility in soil:** No relevant information available.

**Additional ecological information****General notes:**

Due to available data on eliminability/decomposition and bioaccumulation potential, a prolonged damage of the environment is unlikely.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects:** No relevant information available.

**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**

This product is not classed as hazardous.

UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not Regulated
Transport hazard class(es)	Not Regulated

DOT, ADR, ADN, IMDG, IATA Class	
Packing group DOT, ADR, IMDG, IATA	Not Regulated
Environmental hazards: Marine pollutant:	Not applicable.
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.

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## 15 Regulatory information

**Product Name:** Iar Flux® Type B

**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)].

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## 16 Other information

**References**

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

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

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

Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

**WELDING (1):** Due to the diversity of welding techniques, processes, materials used, nature of the surface being welded and the presence of contaminants, the fumes & gases associated with welding will vary in



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

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

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

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

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

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

#### **Disclaimer:**

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

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

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

The information contained herein relates only to the specific product. If the product is combined with other materials, all component properties must be considered. **BE SURE TO CONSULT THE LATEST VERSION OF THE MSDS. MATERIAL SAFETY DATA SHEETS ARE AVAILABLE FROM HARRIS PRODUCTS GROUP** Harris Products Group, HGE PTY LTD, Brisbane | Melbourne | Perth | New Zealand, 14 Queensland Rd, Darra, QLD 4076, Phone: (07) 3375 3670 | Fax: (07) 3375 3620, Email: sales@hgea.com.au, www.harrisproductsgroup.com.au,

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[ End of SDS ]