THE HARRIS PRODUCTS GROUP

Reviewed on 04/04/2022

Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Gal-Viz, Harris 8 and Pasteweld Solders
Other means of identification: Solder Alloy

SDS 0004

Recommended use and restriction on use
Recommended use: Soldering
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: These products consist of Tin/Lead or a **Tin/Lead/Zinc** alloy with a metallic lustre and the **Pasteweld** in a paste mixture. Contact with the mixture of **Pasteweld** can result in allergic reaction and sensitization to the skin in susceptible persons. There are no immediate health hazards associated with **Gal-Viz** and **HARRIS 8**, as solid alloys. When heated during soldering operations, these products may generate irritating and toxic fumes of Lead oxide, Tin oxides, hydrogen chloride, Zinc oxides, and ammonium compounds. There is a danger of cumulative effects if fumes or dusts from these products are inhaled or ingested. These products are not reactive. If involved in a fire, these products may generate irritating fumes and a variety of metal oxides, as described above. Finely divided dusts of these products may result in

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explosive air/dust mixtures. Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.
SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: During soldering operations, the most significant route of over-exposure is via inhalation of fumes.

GHS Classification(s) Toxic to Reproduction: Category 1A
Acute Toxicity: Oral/Inhalation: Category 4
Skin Corrosion/Irritation: Category 1B

Label elements
Signal word **Danger**

Hazard pictograms

Hazard Statement(s)

H302	**Harmful if swallowed**
H360	May damage fertility or the unborn child.
H317	**May cause an allergic skin reaction**
H373	**May cause damage to organs through prolonged exposure**
H302+H332	**Harmful if swallowed or inhaled**
H314	**Causes severe skin burns and eye damage**
H411	**Toxic to aquatic life with long lasting effects**

Prevention Statement(s):

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fumes/gas/mist/vapours/sprays
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P202	Do not handle until all safety precautions have been read and understood.

Response statement(s):

P301+P312	**If swallowed: Call a poison centre or doctor**
P304 + P340	INHALED: Remove to fresh air and keep at rest in a position comfortable for
P308 + P313.	IF exposed or concerned: Get medical advice/ attention
P314	**Get medical attention if you feel unwell**
P330	Rinse mouth
P302 + P352.	If on skin: wash with plenty of soap and water

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:

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Heat rays (infrared radiation) from flame or hot metal can injure eyes. Overexposure to brazing fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product.
Hazard description:
WHMIS-symbols: Not hazardous under WHMIS.

Additional information:
Other hazards which do not result in GHS classification:
Heat rays (infrared radiation) from flame or hot metal can injure eyes. Overexposure to brazing fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: Mixture: consisting of the following components.

Trade Name CAS#	Tin (Sn) 7440-31-5	Lead (Pb) 7439-92-1	Zinc (Zn) 1314-13-2	Chloride	
				Zinc 7646-85-7	Ammonium 12125-02-9
Pasteweld	35-45%	35-45%		15-25%	5-20%
Harris 8	15-20%	45-65%	15-25%		
Gal-Viz	20-25%	35-55%	15-25%		

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: 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 SDS to health professional with victim.

Inhalation:
If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin contact:
If fumes generated by soldering operations involving these products 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 contact:
If fumes generated by soldering operations involving these products 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.
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.
I**nformation for doctor:** Treat Symptomatically
Medical conditions aggravated by exposure: Skin, respiratory, blood, central nervous system and peripheral system, and kidney disorders, may be aggravated by prolonged over-exposures to the dusts or fumes

generated by these products.

Most important symptoms and effects, both acute and delayed

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

Danger

Brazing hazards are complex and may include physical and health hazards such as but not limited to infrared radiation from flame or hot metal, physical strains, thermal burns due to hot metal or spatter and potential health effects of overexposure to brazing fume or dust. Refer to Section 11 for more information.

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5 Fire-fighting measures

Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases/ fumes (metal oxides, borates, fluorides, boron oxides) during brazing, soldering or fluxing operations.

Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

Special fire-fighting procedures: Lead and its decomposition products are hazardous to health. Fire-fighters should not enter an area in which a fire involves these products without wearing specialized protective equipment suitable for potential Lead exposure. Normal fire-fighter bunker gear is not adequate to protect against exposure to Lead and its decomposition products. A full-body, encapsulating chemical resistant suit with positive-pressure Self-Contained Breathing Apparatus may be necessary.

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

Personal precautions, protective equipment and emergency procedures

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. 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.
Incidental releases of this product can be cleaned up by personnel wearing gloves and goggles (or safety glasses). In the event of a non-incidental release, minimum Personal Protective Equipment should be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and self-contained Breathing Apparatus. Pick up paste with polypad or other absorbent agent. Rinse area with a soap and water solution. Decontaminate the area thoroughly. Place all spilled residues in a suitable container and seal. Dispose of in accordance with State, and local hazardous waste disposal regulations

Environmental precautions:

Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up:

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Dispose contaminated material as waste according to item 13.

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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
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
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. As with all chemicals, avoid getting these products ON YOU or IN YOU. Wash thoroughly after handling these products. Do not eat or drink while handling these products. Use ventilation and other engineering controls to minimize potential exposure to these products. If dusts or fumes of these products are present, use of a suitable NIOSH approved respirator must commence immediately to protect against possible Lead poisoning. Unprotected workers must avoid all contact with these products.

Conditions for safe storage, including any incompatibilities
Storage:
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.
All employees who handle these products should be trained to handle it safely. Use in clearly posted areas(s) indicating Lead hazard. Access doors must remain closed while these products are being used or stored. When handling Lead powder on a large scale, closed-handling systems for processes should be used. If this is not possible, use in the smallest possible amounts in appropriate labelled, containment devices (e.g. fume hood). Containment devices should be made of smooth, unbreakable compatible material. Maintain containment devices at appropriate air-flow and negative pressure. Check regularly. Use in a well-ventilated location. Avoid the generation of dusts and prevent the release of fumes to the workplace. Avoid breathing fumes of these products generated during soldering operations. Open containers on a stable surface. Cover surfaces in which these products are being used with compatible, chemical resistant and/or disposable material for easier containment and clean-up. Good housekeeping is very important. Keep work areas clean. Packages of these products must be properly labelled.

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

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

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
7440-31-5	Tin (Sn)		2		
7439-92-1	Lead (Pb)		.15		

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1314-13-2	Zinc (Zn) Dust		10		
1314-13-2	Zinc (Zn) Fume		5		10
7646-85-7	Zinc Chloride		1		
12125-02-9	Ammonium Chloride Fume		10		20

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:
The usual precautionary measures for handling chemicals should be followed.
Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. Personal air monitoring is generally undertaken over a representative period of time undertaken to Australian Standard AS 3640-2009 Workplace atmospheres – Method for sampling and gravimetric determination of inhalable dust using IOM sampling heads with flow rate of 2.0 L/min.
Keep away from foodstuffs, beverages and feed.

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:

Leather or welding gloves.

Suitable gloves can be recommended by the glove supplier.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Eye protection:

Wear glasses or face shield with appropriate shading for brazing operations.
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Body protection: Protective work clothing

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9 Physical and chemical properties

Information on basic physical and chemical properties

APPEARANCE AND COLOR: These odourless products consist of Tin/Lead or a Tin/Lead/Zinc alloy with a metallic lust and the Pasteweld in a paste mixture.

General Information for LEAD: a possible main component:

Odour		**Flammability**	Not Determined
Odour Threshold	Not Applicable	**Flash Point**	Not Available
pH	Not Applicable	**Auto Igniting**	Not Available
Melting point/range	183 C° – 185 C°	**Solubility water**	Insoluble
Vapour Pressure, mmHg@980°C	1	**Flash Point**	Non Combustible
Relative Vapour Density	7.14 (Air = 1)	**Density at 20°C (68°F)**	Not Applicable
Boiling Point & boiling range	1740°C	**Evaporation Rate**	Not Applicable
Freezing/Melting Point	327.4°C	**Specific Gravity @200C (water = 1)**	11.34

General Information for TIN: a possible main component:

Odour		**Flammability**	Not Determined
Odour Threshold	Not Applicable	**Flash Point**	Not Available
pH	Not Applicable	**Auto Igniting**	Not Available
Melting point/range	Not Applicable	**Solubility water**	Insoluble
Vapour Pressure, mmHg@980°C	0	**Flash Point**	Non Combustible
Relative Vapour Density	7.14 (Air = 1)	**Density at 20°C (68°F)**	Not Applicable
Boiling Point & boiling range	2270°C	**Evaporation Rate**	Not Applicable
Freezing/Melting Point	232°C	**Specific Gravity @200C (water = 1)**	7.28

General Information for ZINC: a possible main component:

Odour		**Flammability**	Not Determined
Odour Threshold	Not Applicable	**Flash Point**	Not Available
pH	Not Applicable	**Auto Igniting**	Not Available
Melting point/range	Not Applicable	**Solubility water**	Insoluble
Vapour Pressure, mmHg@980°C	Not Applicable	**Flash Point**	Non Combustible
Relative Vapour Density	Not Applicable	**Density at 20°C (68°F)**	Not Applicable
Boiling Point & boiling range	907°C	**Evaporation Rate**	Not Applicable
Freezing/Melting Point	419°C	**Specific Gravity @200C (water = 1)**	7.14

10 Stability and reactivity

STABILITY: Normally stable. These products can oxidize rapidly to form an insoluble layer of basic Lead carbonate.

DECOMPOSITION PRODUCTS: Lead oxide, Tin oxides, hydrogen chloride, Zinc oxides, and ammonium compounds. NOTE: The composition and quality of soldering fumes and gases are dependent upon the metal being soldered, the process, the procedure, and the alloys used. Other conditions that could also influence the composition and quantity of fumes and gases to which workers may be exposed include the following: any coatings on metal being welded (e.g. paint, plating, or galvanizing), the number of work stations and the volume of the work area, the quality of ventilation, the position of the work stations with respect to the fume plume, and the presence of other contaminates in the atmosphere. When the alloy is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2 (Composition and Information on Ingredients). Fume and gas decomposition products, and not the ingredients in the solders, are important. Concentration of the given fume or gas component may decrease or

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increase by many times the original concentration. New compounds may form. Decomposition products of normal operations include not only those originating from volatilization, reaction, or oxidation of the product's components but also those from base metals and any coating (as noted previously). The best method to determine the actual composition of generated fumes and gases is to take an air sample from the breathing zone. For additional information, refer to the American Welding Society Publication, "Fumes and Gases in the Welding Environment".

MATERIALS WITH THESE PRODUCTS ARE INCOMPATIBLE: These products will be attacked or can react with strong acids, strong bases, hydrogen peroxide (52% or greater- in presence of manganese dioxide), sodium azide, ammonium nitrate, sodium acetylides, sodium carbide, zirconium, or chlorine trifluoride. The flux of some of these products are incompatible with potassium, strong acids, alkalis, interhalogens, strong oxidizers, ammonium nitrate, hydrogen cyanide, potassium chlorate and Lead salts (not Lead metal) and silver salts.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid uncontrolled exposure to extreme temperatures and incompatible materials.

11 Toxicological information

Toxicity				
CAS	Ingredient	Oral Toxicity LC50	Intravenous Toxicity LD50	Inhalation Toxicity LD50
7439-92-1	Lead	TCLo -450 mg/kg 6 years		
1314-13-2	Zinc	7950 mg/kg Mouse	240 mg/kg Rat	
7646-85-7	Zinc Chloride	7950 mg/kg Mouse		
12125-02-9	Ammonium Chloride Fume	1300mg/kg Mouse	30 mg/kg Rat	

Information on toxicological effects:

Acute toxicity:

Toxic if swallowed

Irritancy of product:

Dusts or fumes of these products may be irritating to contaminated skin and eyes. Fumes may be irritating to the respiratory system.

Sensitization:

There is some evidence that inhalation of fumes from the Ammonium Chloride component of some of these products may cause respiratory sensitization in susceptible individuals. Symptoms may include difficulty breathing, persistent coughing and wheezing. Contact with the paste flux can result in allergic reaction and skin sensitization in susceptible individuals.

Inhalation:

Short-term (acute) overexposure to brazing 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 brazing fumes can lead to siderosis (iron deposits in lung), central nervous system effects, bronchitis and other pulmonary effects.

Mutagenicity:

These products are not reported to produce mutagenic effects in humans.

Carcinogenicity:

Welding fume is classified as possibly carcinogenic to humans (IARC Group 2B).

Reproductive:

These products are not reported to cause reproductive effects in humans; however, the Lead component of this product has produced embryo toxic effects in humans.

STOT – single exposure:

Over exposure to fumes may result in irritation of the nose and throat, nausea and headache.

STOT – repeated exposure:

Over exposure to fumes may result in irritation of the nose and throat, nausea and headache.

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12 Ecological information

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.
Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Ingredient	Result	Species	Exposure
1314-13-2 Zinc Oxide	LC50 1.1 mg/l	Fish	96 h
1314-13-2 Zinc Oxide	EC50 2.2mg/l	Daphnia magna	48 h
7646-85-7 Zinc Chloride	LC50 0.4 – 2.2 mg/l	Fish	96 h
7646-85-7 Zinc Chloride	EC50 0.2mg/l	Daphnia magna	48 h
7646-85-7 Zinc Chloride	LOEC 12.5 mg/l	Algae	96 h
12125-02-9 Ammonium Chloride Fume	LC50 109 mg/l	Fish	48 h

Ecotoxicity: Acute
Persistence and Degradability: Components of these products will react with water and air to form a variety of stable metal oxides.
Bioaccumulative Potential: No data is available on the degradability of this product
Mobility in soil: No data is available on the degradability of this product
Other adverse effects: No data is available on the degradability of this product

13 Disposal considerations

Waste treatment methods
Recommendation:
Reuse where possible. Alternatively, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport Information

UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not Regulated
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
Packing group DOT, ADR, IMDG, IATA	Not Regulated
Environmental hazards: Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not regulated.

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15 Regulatory information

Product Name: Gal-Viz, Harris 8 and Pasteweld Solders

Safety, health and environmental regulations/legislation specific for the substance or mixture:
Poison Schedule:
Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications:
Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Refer to the Australian Inventory of Chemical Substances – AICS at https://www.nicnas.gov.au/chemicals-on-AICS#main

Poison schedule: Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). https://www.legislation.gov.au/Details/F2016L01638

Classifications: Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

16 Other information

References
Preparation of Safety Data Sheets for Hazardous Chemicals Codie of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

Australian Code for the Transport of Dangerous Goods by Road & Rail.
Modell Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIIH)

Globally Harmonised System of classification and labelling of chemicals.

WELDING (1): Due to the diversity of welding techniques, processes, materials used, nature of the surface being welded and the presence of contaminants, the fumes & gases associated with welding will vary in composition and quantity. When assessing a welding process, the toxic fumes generated may not only be associated with the parent metal, filler wire or electrode. The welding/cutting arc may generate nitrogen oxides, carbon monoxide & other gases, whilst UV radiation emitted from some arcs generates ozone. Ozone may irritate mucous membranes and cause pulmonary oedema & haemorrhage. Shielding gases (e.g. carbon dioxide and inert gases i.e. argon and helium) in high concentrations, in confined spaces, may reduce oxygen in the atmosphere to dangerous levels, resulting in possible asphyxiation.

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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^3 (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]