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## Safety Data Sheet

### 1 IDENTIFICATION

#### Product identifier

**Trade name:** ARCAL Weld-O

**Other means of identification:** Preweld Aluminium Cleaner

SDS # 0004

#### Recommended use and restriction on use

**Recommended use:** Preweld Aluminium Cleaner

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

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

##### Importer:

Harris Products Group

14 Queensland Rd

Darra, QLD, Australia 4076

(07) 33753670

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

**Website:** <http://www.harrisproductsgroup.com.au>

**Poisons Information Centre/Helpline (24 hours) Australia 13 11 26**

### 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.** Weld-O is an aggressive cleaner for aluminium before and after welding or other machining operations. The primary hazard comes from prolonged contact with skin. Weld-O contains less than 1% nitric acid, and does not cause immediate irritation to intact skin. However; if contaminated clothing is allowed to remain in contact with skin for many minutes or hours, serious damage may be caused by calcium fluoride precipitation in blood vessel capillaries and gangrene may result. Topical treatments include benzalkonium chloride solution (0.13%) and calcium gluconate gel (2.5%).

Skin contact, eye contact and inhalation are possible. If product comes into contact with the eyes, serious burns will occur. Contact with skin will cause burns and irritation. Continued contact, as from contaminated clothing, may result in capillary blockage and gangrene. Ingestion will damage oral and gastric membranes. Inhalation of mist will cause nasal irritation; deeper penetration will harm the respiratory system.

**GHS Classification(s)**      **Acute Toxicity - Health – Eye/Skin Irritant: Category 3**  
 Skin corrosion/irritation: Category 1B

#### Label elements

**Signal word**                      **DANGER**

**Hazard pictograms****GHS05****GHS06****Hazard Statement(s)**

<b>H302</b>	Harmful if swallowed.
<b>H311</b>	Toxic in contact with skin
<b>H304</b>	Ingestion will damage oral and gastric membranes
<b>H331</b>	Inhalation of mist will cause nasal irritation; deeper penetration will harm the respiratory system.
<b>H311</b>	Toxic if inhaled
<b>H318</b>	Causes serious eye damage

**Prevention Statement(s):**

<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P271</b>	Use only outdoors or in a well ventilated area.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P264</b>	Wash thoroughly after handling.

**Response statement(s):**

<b>P301 + P330 + P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF
<b>P304 + P340</b>	INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>P305 + P351 + P338.</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P308 + P313.</b>	IF exposed or concerned: Get medical advice/ attention
<b>P310</b>	Immediately call a POISON CENTER or doctor/physician
<b>P321</b>	Specific treatment is advised - see first aid instructions.
<b>P363</b>	Wash contaminated clothing before reuse.

**Storage Statement(s):** Store Locked Up**Disposal Statement(s):** Dispose of contents/container in accordance with relevant regulations.**Other Hazards** No information provided**Additional information:****Other hazards which do not result in GHS classification:** None established**WHMIS-symbols:** Not hazardous under WHMIS.**3 Composition/information on ingredients****Chemical characterization: Mixtures****Description:** Mixture: consisting of the following components.

Substances/Mixtures		
CAS	Ingredient	Proportion
7664-39-3	Hydrofluoric Acid	<6
7697-37-2	Nitric Acid	<1
123-42-2	Diacetone Alcohol	<5

**Additional information:**

Also contains proprietary, biodegradable, N surfactants and wetting agents. For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

**Composition comments:**

The term "Dangerous Components" should be interpreted as a term defined in Hazard Communication standards and does not necessarily imply the existence of a hazard. The product may contain additional nonhazardous ingredients or may form additional compounds under the condition of use. Refer to Sections 2 and 8 for more information.

**4 First-aid measures****Description of first aid measures****General information:**

**EMERGENCY OVERVIEW.** Weld-O is an aggressive cleaner for aluminium before and after welding or other machining operations. The primary hazard comes from prolonged contact with skin. Weld-O contains less than 1% nitric acid, and does not cause immediate irritation to intact skin. However; if contaminated clothing is allowed to remain in contact with skin for many minutes or hours, serious damage may be caused by calcium fluoride precipitation in blood vessel capillaries and gangrene may result. Topical treatments include benzalkonium chloride solution (0.13%) and calcium gluconate gel (2.5%).

**Inhalation:**

Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Oxygen administration may be beneficial in this situation but should only be administered by personnel trained in its use. Obtain medical attention

**IMMEDIATELY.****Skin contact:**

Remove any contaminated clothing and flush with plenty of cool water. If 0.13% benzalkonium chloride solution or 2.5% calcium gluconate gel is available, the water rinse may be limited to 5 minutes, with soaks of gel applied as soon as the rinsing is stopped.

**Eye contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present. Continue rinsing. Get medical attention immediately.

**Ingestion:**

For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Have the subject drink large amounts of water as quickly as possible to dilute the acid. Do not induce vomiting. Do not give emetics or baking soda. Have victim rinse mouth thoroughly with water. If vomiting occurs naturally, have victim rinse mouth with water again. **IMMEDIATELY** transport victim to an emergency care facility.

**Information for doctor:** Treat Symptomatically

**Most important symptoms and effects, both acute and delayed**

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

**5 Fire-fighting measures****Extinguishing media**

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

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

May liberate hydrogen fluoride and oxides of nitrogen gas.

**Advice for firefighters**

Not normally a fire hazard. Product is over 80% water and unlikely to burn. (A small amount of surfactant will produce carbon oxides if burned.) If product is heated by nearby fire or heat, vapours of hydrofluoric acid will be produced and should be avoided. Granulated limestone (agricultural lime) may be used to neutralize acid runoff from containers which are punctured or overfilled with water spray.

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protection recommended in Section 8

### Environmental precautions:

For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Notify applicable government authority if release is reportable or could adversely affect the environment. Replace damaged containers immediately.

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

In case of spill, treat the area with an alkaline material like agricultural lime and carefully scoop up the result and dispose in a plastic container with hazardous waste. Lime will precipitate the fluoride ion and neutralize acid. Sodium bicarbonate may also be used but produces a soluble fluoride which is toxic and is more difficult to dispose. Protective clothing for skin and eye protection should be worn to protect against corrosive materials.

### 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

Containers exposed to heat may be under internal pressure. These should be cooled and carefully vented before opening. A face shield and apron should be worn. Ventilation Requirements: Use with proper ventilation. 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:

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

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

## 8 Exposure controls/personal protection

### Control parameters

#### Exposure Guidelines:

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

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

Exposure Standards					
CAS	Ingredient	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>
7664-39-3	Hydrofluoric Acid		3		
7697-37-2	Nitric Acid	2	5.2	4	10
123-42-2	Diacetone Alcohol	50	238		

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:** Contact with skin, eyes and mucous membranes can contribute to the overall exposure. Consider measures to prevent absorption by these routes.

#### Ventilation

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

#### Breathing equipment:



Where an inhalation risk exists, wear a Class P2 (Metal fume) respirator. If using product in a confined area, wear an Air-line respirator.

#### Protection of hands:



Wear nitrile or neoprene gloves for routine industrial use. Use triple gloves for spill response.

#### Eye protection:



Use full face-shield and chemical safety goggles when there is potential for contact. Approved acid-resistant mono goggles are required.

**Body/skin protection:** Protective work clothing. Splash-proof safety goggles and chemically resistant gloves (without tears, pinholes or other signs of wear) are highly recommended to protect personnel. A waterproof **apron** is recommended to protect against splashes.



## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

Appearance	Pink Colour	Physical State	Liquid
Odour	Acidic	Flammability	Not Available
Odour Threshold	Not Available	Flash Point	>71 <sup>0</sup> C

pH	<1	Auto Igniting	Not Available
Melting point/range	Not Available	Solubility water	Complete
Vapour Pressure, mmHg@980°C	Not Available		
Vapour Density	Not Available	Density at 20°C (68°F)	Not Available
Boiling Point & boiling range	100°C	Evaporation Rate	Not Available
Freezing/Melting Point	Not Available	Specific Gravity @200C (water = 1)	1.1

## 10 Stability and reactivity

**Reactivity:** The product is stable.

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

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

**Conditions to avoid:** Extreme heat and cold. Environments which are not well ventilated.

**Incompatible materials:** Avoid inadvertent contact with active metals, and with any oxidisable material which could generate foam. The major hazard is the corrosive action of acid, so store away from materials which could be affected by exposure to corrosive vapours or mist.

**Hazardous decomposition products:** Not available

## 11 Toxicological information

Toxicity – Animal and Human Species				
CAS	Ingredient	Oral Toxicity LC50 – Animal LDLo - Human	Intraperitoneal Toxicity LC50 – Animal LDLo - Human	Inhalation Toxicity LC50 – Animal LDLo - Human
7664-39-3	Hydrofluoric Acid	TDLo Man 143mg/kg	No Data Available	1276ppm/1H Rat 50ppm/30M Human
7697-37-2	Nitric Acid	430mg/kg Human	No Data Available	67ppm 4H Rat
123-42-2	Diacetone Alcohol	2520mg/kg Rat	LD50 933mg/kg Mouse	TCLo 400ppm Human

### Information on toxicological effects:

#### Acute toxicity:

The primary irritant effect is on the skin (including the eye), especially from prolonged contact. Other ingredients are diluted and present minimal hazard.

#### Skin Contact:

Causes severe skin burns, irritation on skin.

#### Eye Contact:

Causes eye damage on contact.

#### Respiratory sensitisation:

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

#### Aspiration:

Not a respiratory sensitiser.

#### Inhalation:

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

#### Carcinogenicity:

Not applicable

#### STOT – single exposure:

Not classified

#### STOT – repeated exposure:

Not classified

## 12 Ecological information

CAS#	Ingredient	Result	Species	Exposure
7664-39-3	Hydrofluoric Acid	No Data Available		
7697-37-2	Nitric Acid	No Data Available		
123-42-2	Diacetone Alcohol	>100 mg/L LC50 >1000 mg/L EC50 >1000 mg/L EC50	Bluegill sunfish Daphnia Magna Green Algae	96H 48H 72H

**Ecotoxicity:** Do not allow product to reach ground water, water course or sewer. Harmful to aquatic life at low concentrations. Toxicity is primarily associated with pH. Acidic soil conditions can develop with product present. Higher than normal toxic heavy metal concentrations can then occur in ground and surface waters.

**Persistence and Degradability:** No data is available on the degradability of this product

**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:

Waste product is hazardous. Do not dispose with residential garbage or allow product to reach ground water or sewer.

### 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

Compound 302 is sold in limited quantities:

49CFR173.154, Exceptions for Class 8 (Corrosive materials). Limited Quantities may be classified as a "Consumer Commodity" ORM-D

### Other than limited quantities the following would apply:

UN-Number DOT, ADR, ADN, IMDG, IATA	UN 1790
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Hydrochloric Acid Solution 10%
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	8 Corrosive Substances 
Packing group DOT, ADR, IMDG, IATA	II
Environmental hazards: Marine pollutant:	No
Special precautions for user Hazard Identification # Hazchem code ADG	Not applicable. 80 2R

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not regulated.

## 15 Regulatory information

**Product Name:** ARCAL Weld-O

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**Poison Schedule:**

Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications:**

Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

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

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

**Classifications:** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

## 16 Other information

### References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

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

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

Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

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



**WELDING (2):** In addition to complying with individual exposure standards for specific contaminants, where current manual welding processes are used, the fume concentration inside the welder's helmet should not exceed 5 mg/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 SAFETY DATA SHEET (S.D.S.). ALSO, FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.**

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

#### **STATEMENT OF LIABILITY-DISCLAIMER**

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[ End of SDS ]