BOC
A Member of The Linde Group

SAFETY DATA SHEET

6055

Product Name **BOC WELD-GUARD ALUMINIUM BRIGHTENER & CLEANER**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**BOC LIMITED (AUSTRALIA)**
Address	10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
Telephone	131 262, (02) 8874 4400
Fax	132 427 (24 hours)
Emergency	1800 653 572 (24/7) (Australia only)
Web Site	http://www.boc.com.au/
Synonym(s)	1307 - PRODUCT CODE • ALUMINIUM BRIGHTER AND CLEANER • WELD GUARD ALUMINIUM BRIGHTER AND CLEANER
Use(s)	SCALE REMOVER
SDS Date	03 Nov 2011

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R22	Harmful if swallowed.
R35	Causes severe burns.

SAFETY PHRASES

S22	Do not breathe dust.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S30	Never add water to this product.
S37	Wear suitable gloves.
S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	2922	**DG Class**	8	**Subsidiary Risk(s)**	6.1
Packing Group	II	**Hazchem Code**	2XE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
SULPHURIC ACID	H2-S-O4	7664-93-9	10-30%
ETHYLENE GLYCOL MONOBUTYL ETHER	C6-H14-O2	111-76-2	<10%
AMMONIUM HYDROGEN DIFLUORIDE	F2-H5-N	1341-49-7	<3%
HYDROFLUORIC ACID (EVOLVED)	HF	7664-39-3	Not Available
WATER	H2O	7732-18-5	30-60%
ADDITIVE(S)	Not Available	Not Available	<10%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Full-face Type B (Inorganic and acid gas) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Skin If skin contact occurs, immediately remove contaminated clothing. Flush skin under running water for 15 minutes. Then apply calcium gluconate gel. Contact a Poison Information Centre on 13 11 26 (Australia Wide).

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.

Special treatment Eye Treatment: Flush the eye with water for at least 15 minutes, continue irrigation with isotonic saline or water until the severe pain of the burn is relieved. Instil several drops of sterile calcium gluconate (10% solution).

First aid facilities Eye wash facilities and safety shower should be available. Calcium gluconate gel should be readily available wherever the product is used or stored.

5. FIRE FIGHTING MEASURES

Special hazards Non flammable. May evolve toxic gases (fluorides, sulphur oxides) when heated to decomposition. May evolve flammable hydrogen gas in contact with some metals.

Advice for firefighters Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. 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.

Extinguishing media Prevent contamination of drains or waterways.

Hazchem Code 2XE

6. ACCIDENTAL RELEASE MEASURES

Spillage Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Prevent spill from entering drains and waterways.

7. STORAGE AND HANDLING

Storage Store in secured, cool, dry, well ventilated area, removed from oxidising agents, alkalis, most metals, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled and protected from physical damage when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection and ventilation systems. Also store removed from glass.

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.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds

Ingredient	Reference	TWA		STEL	
2-Butoxyethanol (EGBE)	SWA (AUS)	20 ppm	96.9 mg/m³	50 ppm	242 mg/m³
Fluorides, as F	SWA (AUS)	--	2.5 mg/m³	--	--
Hydrogen fluoride (as F)	SWA (AUS)	3 ppm	2.6 mg/m³	--	--
Sulphuric acid	SWA (AUS)	--	1 mg/m³	--	3 mg/m³

Biological Limits No biological limit allocated.

Engineering Controls 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.

PPE Wear a PVC apron, rubber boots, viton (R) or butyl gloves, coveralls and a Full-face Type B (Inorganic and Acid gas) respirator. When using large quantities or where heavy contamination is likely, wear: impervious coveralls. If spraying, with prolonged use, or if in confined areas, wear: an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	VISCOUS WHITE TO AMBER COLOURED GEL	**Solubility (water)**	SOLUBLE
Odour	SLIGHT ODOUR	**Specific Gravity**	1.01
pH	ACIDIC	**% Volatiles**	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	**Flammability**	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	**Flash Point**	NOT RELEVANT
Boiling Point	NOT AVAILABLE	**Upper Explosion Limit**	NOT RELEVANT
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE		
Autoignition Temperature	NOT AVAILABLE	**Decomposition Temperature**	NOT AVAILABLE
Partition Coefficient	NOT AVAILABLE	**Viscosity**	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical stability Stable under recommended conditions of storage.

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Incompatible with oxidising agents (eg. hypochlorites), alkalis (eg. hydroxides) and some metals. Also incompatible with glass.

Hazardous Decomposition Products May evolve toxic gases (fluorides, sulphur oxides) when heated to decomposition.

Hazardous Reactions Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health hazard summary Highly corrosive. This product has the potential to cause serious adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in severe and permanent eye, skin and respiratory damage. Upon dilution, the potential for corrosive effects may be reduced.

Eye Highly corrosive. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and corneal burns with possible permanent damage.

Inhalation Corrosive - toxic. Over exposure may result in irritation of the nose and throat, coughing and bronchitis. High level exposure may result in ulceration of the respiratory tract, lung tissue damage, chemical pneumonitis and pulmonary oedema. Effects may be delayed.

Skin Highly corrosive - toxic. Contact may result in burning sensation (delayed), severe and deep burns, discolouration, severe tissue damage and death which may be delayed.

Ingestion Highly corrosive - toxic. Ingestion may result in burns to the mouth and throat, nausea, vomiting, ulceration of the gastrointestinal tract, oedema, rapid pulse, shock, unconsciousness, convulsions and death.

Toxicity Data

SULPHURIC ACID (7664-93-9)
- LC50 (Inhalation): 18 mg/m³ (guinea pig)
- LD50 (Ingestion): 2140 mg/kg (rat)
- TCLo (Inhalation): 3 mg/m³/24 weeks (human)

ETHYLENE GLYCOL MONOBUTYL ETHER (111-76-2)
- LC50 (Inhalation): 700 ppm (mouse)
- LD50 (Ingestion): 300 mg/kg (rabbit)
- LD50 (Skin): 230 mg/kg (guinea pig)
- TCLo (Inhalation): 100 ppm (human)
- TDLo (Ingestion): 7813 uL/kg (woman)

HYDROFLUORIC ACID (EVOLVED) (7664-39-3)
LC50 (Inhalation): 342 ppm/1 hour (mouse)
LCLo (Inhalation): 50 ppm/30 minutes (human)
LDLo (Intraperitoneal): 25 mg/m³ (rat)
LDLo (Skin): 500 mg/kg (mouse)
LDLo (Subcutaneous): 112 mg/m³ (frog)
TCLo (Inhalation): 100 mg/m³/1 minute (man -eye, lung)
TDLo (Ingestion): 143 mg/kg (rat)

12. ECOLOGICAL INFORMATION

Other adverse effects SOIL: If released to soil, this product will dissolve the carbonate based soil materials due to its acidic nature. WATER: A significant amount will reach the water table where dilution and dispersion help to reduce the acid concentration. Aquatic life may be threatened if the pH falls below 5.

13. DISPOSAL CONSIDERATIONS

Waste disposal Wearing the protective equipment detailed above, neutralise to pH 6-8 by SLOW addition to a saturated sodium bicarbonate solution or similar basic solution. Dilute with excess water and flush to drain. Waste disposal should only be undertaken in a well ventilated area.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains sulfuric acid and ammonium bifluoride)				
UN No.	2922	**DG Class**	8	**Subsidiary Risk(s)**	6.1
Packing Group	II	**Hazchem Code**	2XE	**GTEPG**	8A1

IATA

Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains sulfuric acid and ammonium bifluoride)				
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IMDG

Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains sulfuric acid and ammonium bifluoride)				
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Packing Group	II				

15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information ACIDS: When mixing acids with water (diluting), caution must be taken as heat will be generated which causes violent spattering. Always add a small volume of acid to a large volume of water, NEVER the reverse.

HYDROFLUORIC ACID: Severe burns and tissue damage have been reported after direct contact with small quantities of low concentration (< 20 %) hydrofluoric acid. An immediate burning sensation and pain is not always apparent but is a delayed effect which may proceed to corrosive tissue damage and toxic systemic effects through absorption. Hydrofluoric acid has the potential to cause permanent tissue damage and to be fatal if contaminated areas are not treated immediately.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid

exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:
ACGIH - American Conference of Industrial Hygienists.
ADG - Australian Dangerous Goods.
BEI - Biological Exposure Indice(s).
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EC No - European Community Number.
HSNO - Hazardous Substances and New Organisms.
IARC - International Agency for Research on Cancer.
mg/m³ - Milligrams per Cubic Metre.
NOS - Not Otherwise Specified.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
STEL - Short Term Exposure Limit.
SWA - Safe Work Australia.
TWA - Time Weighted Average.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this ChemAlert 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.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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End of Report