SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **STEEL BRIGHTENER**

Synonyms STAINLESS STEEL BRIGHTENER

1.2 Uses and uses advised against

Uses ACID CLEANER ● BRIGHTENER ● STAINLESS STEEL CLEANER ● SURFACE FINISHING

1.3 Details of the supplier of the product

Supplier name **DUBOIS CHEMICALS AUSTRALIA PTY LIMITED**

Address 305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA

Telephone (03) 9768 3860

Email sales@duboischemicals.com.au

Website http://duboischemicals.com.au/

1.4 Emergency telephone numbers

Emergency 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Corrosive to Metals: Category 1

Health Hazards

Acute Toxicity: Oral: Category 4
Skin Corrosion/Irritation: Category 1B
Serious Eye Damage / Eye Irritation: Category 1

Environmental Hazards

Aquatic Toxicity (Acute): Category 3

2.2 GHS Label elements

Signal word **DANGER**

Pictograms

Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H402	Harmful to aquatic life.

Prevention statements

P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response statements

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.
P321	Specific treatment is advised - see first aid instructions.
P390	Absorb spillage to prevent material damage.

Storage statements

P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE)	1341-49-7	215-676-4	>10%
PHOSPHORIC ACID	7664-38-2	231-633-2	30 to 60%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	Remainder
ALKYL BENZENE SULPHONATE	42615-29-2	610-046-9	5 to 15%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye Keep patient calm. Immediately hold eyelids apart and irrigate entire eyeball with gentle flow of water for 15 to 20 minutes. Urgently seek eye specialist attention while continuing irrigation. Calcium gluconate gel may be applied to eyes if medical attention is delayed, or use a dedicated first aid device such as HEXAFLUORINE ® as per supplier's instructions.

Inhalation Quickly remove from exposure. Remove contaminated clothing, check there is no obstruction to the airway if breathing is weak or has ceased and give artificial respiration, preferably using an oxygen resuscitator. Administer 2.5% calcium gluconate via nebuliser if available. In all cases summon ambulance and transport to hospital for further observation.

Skin Flush affected area with copious quantities of water. Use an emergency shower for large areas. Remove affected clothing as quickly as possible. Decontaminate with saline or water. Apply calcium gluconate 2.5% gel to contaminated skin, repeating every 15 minutes until pain ceases. If calcium gluconate gel is not available, an extemporaneous gel can be prepared by adding 10 mL of calcium gluconate injection 10% to 30 mL of sterile surgical lubricant. Alternatively, use a dedicated first aid device such as HEXAFLUORINE ® Autonomous Portable Shower as per supplier's instructions. Urgently transport to hospital and recommend admission.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

First aid facilities Emergency shower and eye wash basin. Calcium gluconate gel or injection should also be available and/or dedicated first aid devices such as the HEXAFLUORINE ® range. Rescue personnel should use self contained breathing apparatus and a full chemical suit or full cover overalls. Air-VivaTM or Oxy-VivaTM. Water or sterile saline solution for irrigation.

4.2 Most important symptoms and effects, both acute and delayed

Exposure to high concentrations may result in immediate, severe, burning pain and whitish discoloration proceeding to blister formation. Exposure to lower concentrations may result in pain, redness, swelling and blistering - symptoms may be delayed. Eye exposure may result in severe burns with corneal destruction or opacification. If left untreated, blindness may result. Acute symptoms of inhalation may include coughing, choking, chest tightness, chills, fever and cyanosis. Ingestion may result in severe burns to the mouth, esophagus and stomach. Systemic fluoride toxicity may result from ingestion, inhalation, or extensive dermal burns; hypocalcaemia, hypomagnesemia, hyperkalaemia (potassium), pulmonary oedema, metabolic acidosis, ventricular arrhythmias and death may occur.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Water fog. Prevent contamination of drains and waterways.

5.2 Special hazards arising from the substance or mixture

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

5.3 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.

5.4 Hazchem code

2X

2 Fine Water Spray.

X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with sodium carbonate or similar, collect and place in suitable containers for treatment and/or disposal.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in a secured, cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be bunded.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Fluorides, as F	SWA [AUS]	--	2.5	--	--
Phosphoric acid	SWA [AUS]	--	1	--	3

Biological limits

Ingredient	Determinant	Sampling Time	BEI
AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE)	Fluoride in urine	Prior to shift	2 mg/L
	Fluoride in urine	End of shift	3 mg/L

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

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

PPE

Eye / Face Wear a faceshield and splash-proof goggles.

Hands Wear butyl or viton® gloves.

Body Wear rubber boots and impervious coveralls.

Respiratory Where an inhalation risk exists, wear a Full-face Type B (Inorganic and Acid gas) respirator. With prolonged use, wear an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	CLEAR COLOURLESS LIQUID
Odour	SLIGHT ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	> 2
Vapour density	NOT AVAILABLE
Relative density	1.10 to 1.15
Solubility (water)	SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity
May be corrosive to metals.

10.2 Chemical stability
Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions
Polymerization will not occur.

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

10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide) and metals.

10.6 Hazardous decomposition products
May evolve toxic gases (fluorides) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Harmful if swallowed. Ingestion may result in severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE)	130 mg/kg (rat)	--	--
PHOSPHORIC ACID	1530 mg/kg (rat)	2740 mg/kg (rabbit)	3846 mg/m³ (rat)
ALKYL BENZENE SULPHONATE	437 mg/kg (rat)	437 mg/kg (rat)	--

Skin Contact may result in burning sensation and deep burns with tissue damage.

Eye Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible serious eye damage.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Not classified as a mutagen.

Carcinogenicity Not classified as a carcinogen.

Reproductive Not classified as a reproductive toxin.

STOT - single exposure Over exposure may result in mucous membrane irritation of the respiratory tract, coughing, bronchitis, ulceration, bloody nose, lung tissue damage, chemical pneumonitis, and pulmonary oedema.

STOT - repeated exposure Repeated exposure may result in discolouration of teeth; as well as lung, kidney, liver, ligament and bone (osteosclerosis, skeletal fluorosis) damage.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Harmful to aquatic life.

12.2 Persistence and degradability
No information provided.

12.3 Bioaccumulative potential
No information provided.

12.4 Mobility in soil
No information provided.

12.5 Other adverse effects
Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal For small amounts (as determined by risk assessment or similar): 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. For larger amounts: Dispose in accordance with local regulations.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	3264	3264	3264
14.2 Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains ammonium bifluoride, phosphoric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains ammonium bifluoride, phosphoric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains ammonium bifluoride, phosphoric acid)
14.3 Transport hazard class	8	8	8
14.4 Packing Group	II	II	II

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

Hazchem code 2X

EmS F-A, S-B

15. REGULATORY INFORMATION

15.1 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 Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information 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.

PREHOSPITAL CARE:

Treatment for HF acid burns includes basic life support and appropriate decontamination, followed by neutralisation of the acid by use of calcium gluconate. If exposure occurs at an industrial site, obtain and transport any available treatment literature.

1. Assess and manage acute life threatening conditions in the usual manner. Emergency Medical Services (EMS) personnel should use gloves, masks, and gowns, if necessary.

2. Remove contaminated clothing. Flush with copious amounts of water.

3. Ice packs on the affected area may alleviate symptoms by retarding diffusion of the fluoride ion.

4. If calcium gluconate gel is available, apply liberally to the affected area.

5. For digital burns, if calcium gluconate gel is not available, the fingers may be soaked in magnesium hydroxide-containing antacid preparations (eg, Mylanta) en route to a medical facility.

6. Treat inhalation exposures with oxygen and 2.5% calcium gluconate nebuliser.

7. Transport the patient to the nearest appropriate medical facility.

(Reference: eMedicine Journal, May 7 2001, Volume 2, Number 5).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

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

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

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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