

pH DECREASE

ChemWatch Material Safety Data Sheet (REVIEW)
 CHEMWATCH 6504-46
 Date of Issue: Wed 19-Mar-2003

IDENTIFICATION



STATEMENT OF HAZARDOUS NATURE

HAZARDOUS ACCORDING TO WORKSAFE CRITERIA.
 CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO DIRECTIVE 67/548/EEC, POINT 4;
 AND TO 29 CFP 1910-1200 (USA).

SUPPLIER

Company	Andrew Brands Ltd
Address	3 Porana Road, Glenfield, AUCKLAND
Telephone	0800 802 626 or 09 979 3777
Emergency Telephone	0800 243 622
Fax	0800 731 770
Website	www.andrewbrands.co.nz

CHEMWATCH HAZARD RATINGS

Flammability	0
Toxicity	0
Body Contact	3
Reactivity	0
Chronic	0

SCALE Min/Nil =0 Low =1 Moderate=2 High=3 Extreme=4

PERSONAL PROTECTION EQUIPMENT FOR INDUSTRIAL / COMMERCIAL ENVIRONMENTS

Short Gloves
 Overalls
 Goggles or Full Face Respirator

Product Name	Pool Pride pH Decrease
Other Names	Sodium Bisulphate
CAS RN No (s)	None
UN Number	1759
Packing Group	II
Dangerous Goods Class	8
Subsidiary Risk	None
Hazchem Code	2X
Posions Schedule Number	S5

USE

Toilet bowl cleaner, pH decriaser in spas and pools, metal cleaner and water treatment for boilers and cooling towers.

PHYSICAL DESCRIPTION / PROPERTIES



APPEARANCE

White to light yellow free flowing hygroscopic crystals; soluble in water. Slightly soluble in alcohol.

Boiling Point	Decomposes.
Melting Point	>315
Vapour Pressure (kPa)	Not applicable
Specific Gravity	2.44
Flash Point (deg C)	Non Flammable
Lower Explosive Limit (%)	Not applicable
Upper Explosive Limit (%)	Not applicable
Solubility in Water (g/L)	Soluble.

INGREDIENTS

NAME	CAS RN	%
Sodium Hydrogen Sulfate	7681-38-1	>60

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

HEALTH HAZARD



ACUTE HEALTH EFFECTS

SWALLOWED

The solid/dust is extremely discomforting to the gastro-intestinal tract and is capable of causing burns to mouth, throat, oesophagus, with extreme discomfort, pain. Because sulfuric acid is formed in the gastrointestinal tract, nausea, vomiting and severe stomach pains may result following ingestion of large quantities.

EYE

The solid/dust is extremely discomforting to the eyes and is capable of causing severe damage with loss of sight. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

The dust may be highly discomforting to the skin. Prolonged exposure may cause chemical burns. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Moisture on skin, such as perspiration, may cause burns due to formation of sulfuric acid.

INHALED

The dust may be extremely discomforting to the upper respiratory tract. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. On contact with moisture the material releases corrosive sulfuric acid. Inhalation may cause coughing, choking, burns to the mucous membranes, dizziness, headache, nausea and weakness. High concentrations cause inflamed airways and watery swelling of the lungs with oedema. Pulmonary oedema may be immediate for the most severe exposures, but is usually delayed 5-72 hours. A slowly progressive, but marked inflammatory reaction takes place. Symptoms include tightness in the chest, dyspnea, dizziness, frothy sputum and cyanosis (bluish skin). Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

FIRST AID

SWALLOWED

If poisoning occurs, contact a doctor or Poisons Information Centre.

If swallowed do NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconsciousness

Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Seek medical advice.

EYE

If this product comes in contact with the eyes:

Immediately hold eyelids apart and flush the eye continuously with running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Transport to hospital or doctor without delay.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

Immediately remove all contaminated clothing, including footwear

Flush skin and hair with running water (and soap if available).

Seek medical attention in event of irritation.

INHALED

If dust is inhaled, remove from contaminated area.

Encourage patient to blow nose to ensure clear breathing passages.

If irritation or discomfort persists seek medical attention.

ADVISE TO THE DOCTOR

For acute or short term repeated exposures to strong acids:

Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.

Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling

Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.

Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION:

Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.

DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.

Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.

Charcoal has no place in acid management.

Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.

Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.

Cycloplegic drops (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury. Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

PRECAUTIONS FOR USE



EXPOSURE STANDARDS

No data for Andrew Sodium Bisulphate (Anhydrous) - Technical Grade.

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration: Composite Exposure Standard for Mixture (TWA) :2.5 mg/m³. Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone. If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be over exposed.

Component	Breathing Zone ppm	Breathing Zone mg/m ³	Mixture Conc (%)
sodium hydrogen sulfate	2.5	100	0

INGREDIENT DATA

No data for Andrew Sodium Bisulphate (Anhydrous) - Technical Grade.

SODIUM HYDROGEN SULFATE

CEL TWA: 2.5 mg/m³

[Manufacturer]

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:

solvent, vapours, degreasing etc., evaporating from tank (in still air).
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

Air Speed:

0.25-0.5 m/s (50-100 f/min)
0.5-1 m/s (100-200 f/min.)

1-2.5 m/s (200-500 f/min.)

2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only.
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

PERSONAL PROTECTION

EYES

Safety glasses with side shields
Chemical goggles. Full face shield.
Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS / FEET

Rubber gloves
PVC gloves.
Safety footwear.
Rubber boots.

OTHER

Rubber apron
Overalls.
Eyewash unit.
Ensure there is ready access to a safety shower.

RESPIRATOR

Protection Factor	Half Face Respirator	Full Face Respirator	Powered Air Respirator
10 x ES	P1 Air-line*	-	PAPR-P1
50 x ES	Air-line**	P2	PAPR-P2
100 x ES	-	P3	-
	-	Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand

** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information, consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

SAFE HANDLING



STORAGE AND TRANSPORT

SUITABLE CONTAINER

Glass container
Plastic container.
Plastic drum.
Plastic bag

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

Polylined drum.

Check that containers are clearly labelled.

Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

Avoid storage with calcium hypochlorite, aluminium, alcohols and bases.

STORAGE REQUIREMENTS

Keep dry

Store in original containers.

Keep containers securely sealed.

Store in a cool, dry, well-ventilated area.

Store away from incompatible materials and foodstuff containers.

Protect containers against physical damage and check regularly for leaks.

Observe manufacturer's storing and handling recommendations.

DO NOT use aluminium or galvanised containers

TRANSPORTATION

Class 8 - Corrosives shall not be loaded in the same vehicle or packed in the same freight container with:

Class 1 - Explosives;

Class 4.3 - Dangerous when wet substances;

Class 5.1 - Oxidising agents;

Class 5.2 - Organic peroxides;

Class 6 - Poisonous (toxic) substances (where the poisonous substances are cyanides and the corrosives are acids);

Class 7 - Radioactive substances;

Food and food packaging in any quantity.

SPILLS AND DISPOSAL

MINOR SPILLS

1. Clean up all spills immediately.
2. Avoid contact with skin and eyes.
3. Wear protective clothing, gloves, safety glasses and dust respirator.
4. Use dry clean up procedures and avoid generating dust.
5. Place in suitable containers for disposal.

MAJOR SPILLS

1. Clear area of personnel and move upwind.
2. Alert Fire Brigade and tell them location and nature of hazard.
3. Wear full body protective clothing with breathing apparatus.
4. Prevent, by any means available, spillage from entering drains or water course.
5. Stop leak if safe to do so.
6. Contain spill with sand, earth or vermiculite.
7. Collect recoverable product into labelled containers for recycling.
8. Neutralise/decontaminate residue.
9. Collect solid residues and seal in labelled drums for disposal.
10. Wash area and prevent runoff into drains.
11. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
12. If contamination of drains or waterways occurs, advise emergency services.

DISPOSAL

Recycle wherever possible or consult manufacturer for recycling options.

Consult State Land Waste Management Authority for disposal.

Treat and neutralise with soda ash at an effluent treatment plant.

Recycle containers, otherwise dispose of in an authorised landfill.

FIRE FIGHTERS' REPORT

EXTINGUISHING MEDIA

Dry chemical powder.
BCF (where regulations permit).
Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.
Wear full body protective clothing with breathing apparatus.
Prevent, by any means available, spillage from entering drains or water course.
Use fire fighting procedures suitable for surrounding area.
Do not approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.
Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

Non combustible.
Not considered to be a significant fire risk.
Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
Heating may cause expansion or decomposition leading to violent rupture of containers.
May emit corrosive, poisonous fumes. May emit acrid smoke.
Decomposition may produce toxic fumes of sulfur oxides (SOx)

FIRE INCOMPATIBILITY

Avoid reaction with calcium hypochlorite, aluminium, alcohols, bases, moisture.

HAZCHEM

2X

CONTACT POINT



In the event of a chemical event or a chemical incident phone **0800 243 622** for immediate assistance.

AUSTRALIAN POISONS INFORMATION CENTRE

24 HOUR SERVICE: 13 11 26
POLICE, FIRE BRIGADE OR AMBULANCE: 000

NEW ZEALAND POISONS INFORMATION CENTRE

24 HOUR SERVICE: 0800 POISON or +643 353 0199
NZ EMERGENCY SERVICES: 111

End of Report

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