SAFETY DATA SHEET

PRODUCT

NALCO® 6198

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	**NALCO® 6198**
OTHER MEANS OF IDENTIFICATION	Not applicable
RECOMMENDED USE AND RESTRICTIONS	pH CONTROL Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
COMPANY IDENTIFICATION	ECOLAB PTE LTD 21 Gul Lane, Singapore 629416 TEL: 65- 6505-6868 FAX: 65-6862 0850
EMERGENCY TELEPHONE NUMBER(S)	+65 6542 9595

2. HAZARDS IDENTIFICATION

CLASSIFICATION

Skin corrosion/irritation - Category 1A
Serious eye damage/eye irritation - Category 1
Corrosive to metals - Category 1

GHS LABEL ELEMENTS

HAZARD SYMBOLS

SIGNAL WORD : Danger

HAZARD STATEMENTS
Causes severe skin burns and eye damage.
May be corrosive to metals.

PRECAUTIONARY STATEMENTS

Prevention:
Do not breathe dusts or mists.
Wash hands thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep only in original container.

Response:
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTER or doctor/ physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Absorb spillage to prevent material damage.

Storage:
Store in corrosive resistant container with a resistant inner liner.

Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE / PREPARATION :
Mixture

CHEMICAL NATURE :
Inorganic acid(s), Water

CHEMICAL NAME	CAS NO	% (w/w)
Sulfuric Acid	7664-93-9	30 - 60

The balance of the substances in this product are not classified as hazardous or are present below hazard cut-off limits

4. FIRST AID MEASURES

INHALATION
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

SKIN CONTACT
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

EYE CONTACT
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. If only one eye is affected be sure to use care not to contaminate the other eye with the run-off. Get immediate medical attention.

INGESTION
DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

MOST IMPORTANT SYMPTOMS/ EFFECTS
Causes severe skin burns and eye damage.

NOTE TO PHYSICIAN
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

PROTECTION FOR FIRST AID PERSONNEL
Wear adequate personal protective equipment.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD
Not flammable or combustible. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

ENVIRONMENTAL PRECAUTIONS
Do not contaminate surface water.

METHODS FOR CLEANING UP
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep the containers closed when not in use. Ensure all containers are labeled.

SUITABLE STORAGE CONDITIONS
Store in suitable labeled containers. Store the containers tightly closed.

SUITABLE CONSTRUCTION MATERIAL :
Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use. ,

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

OCCUPATIONAL EXPOSURE LIMITS
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Country/Source	Substance(s)	Basis	ppm	mg/m3
ACGIH/TLV	Sulfuric Acid	TWA STEL	1 3	
SINGAPORE	Sulfuric Acid	PEL (long term) PEL (short term)		1 3
USA	Sulfuric Acid (Thoracic fraction) Sulfuric Acid	ACGIH/TWA NIOSH REL/TWA OSHA Z1/TWA		0.2 1 1

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

MONITORING MEASURES
A small volume of air is drawn through an absorbant or barrier to trap the substance(s) which can then be desorbed or removed and analyzed as referenced below:

Substance(s)	Method	Analysis	Absorbant
Sulfuric Acid	US NIOSH: 7903	Ion chromatography	Silica gel

APPROPRIATE ENGINEERING CONTROLS
General ventilation is recommended. Use general ventilation with local exhaust ventilation.

PERSONAL PROTECTION

RESPIRATORY PROTECTION
An approved respirator must be worn if the occupational exposure limit is likely to be exceeded. Consider the use of filter type: Particulate filter - HEPA. with a Particulate pre-filter. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

EYE PROTECTION
Wear a face shield with chemical splash goggles.

HAND PROTECTION
PVC OR NEOPRENE GLOVES Breakthrough time not determined as preparation, consult PPE manufacturers. Gloves should be replaced immediately if signs of degradation are observed.

SKIN PROTECTION
Wear protective overalls, chemical splash goggles and impervious gloves. A full slicker suit is recommended if gross exposure is possible.

HYGIENE RECOMMENDATIONS
Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	Acidic
ODOR THRESHOLD	No data available.
pH (5.0 %)	0.3
MELTING POINT / FREEZING POINT	No data available.
INITIAL BOILING POINT / BOILING POINT	No data available.
FLASH POINT	Not flammable
EVAPORATION RATE	No data available.
FLAMMABILITY (solid, gas)	No data available.
LOWER EXPLOSION LIMIT	No data available.
UPPER EXPLOSION LIMIT	No data available.
VAPOR PRESSURE	No data available.
VAPOR DENSITY	No data available.
SPECIFIC GRAVITY	1.5 (16.0 °C)
DENSITY	No data available.
SOLUBILITY IN WATER	Complete
OCTANOL/WATER COEFFICIENT (log Kow)	No data available.
AUTOIGNITION TEMPERATURE	No data available.
DECOMPOSITION TEMPERATURE	No data available.
VISCOSITY	No data available.

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY
Stable under normal conditions.

HAZARDOUS REACTIONS
Hazardous polymerization will not occur.

CONDITIONS TO AVOID
Avoid extremes of temperature.

INCOMPATIBLE MATERIALS
Bases Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS
Under fire conditions: None known

11. TOXICOLOGICAL INFORMATION

INFORMATION ON THE LIKELY ROUTES OF EXPOSURE

PRIMARY ROUTES OF EXPOSURE
Eye, Skin

Refer to the sections below for details of health effects via each route.

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE

ACUTE TOXICITY DATA
No adverse effects expected.

SKIN CORROSION / IRRITATION
Causes severe skin burns and eye damage.

SERIOUS EYE DAMAGE / IRRITATION
Causes serious eye damage.

RESPIRATORY / SKIN SENSITIZATION
This product is not expected to be a sensitizer.

GERM CELL MUTAGENICITY
Not expected to be a mutagen.

CARCINOGENICITY
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

REPRODUCTIVE TOXICITY
No reproductive toxic effects expected.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
No adverse effects expected.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE
No adverse effects expected.

ASPIRATION HAZARD
No aspiration toxicity classification

NUMERICAL MEASURES OF TOXICITY

ACUTE TOXICITY DATA
No toxicity studies have been conducted on this product.

HUMAN HAZARD CHARACTERIZATION
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICITY

No toxicity studies have been conducted on this product.

PERSISTENCY AND DEGRADATION
Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

MOBILITY
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low

OTHER INFORMATION
No data available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS
Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

DISPOSAL CONSIDERATIONS
Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT

UN/ID No :	UN 1830
Proper Shipping Name :	SULFURIC ACID WITH MORE THAN 51% ACID (Sulfuric Acid)
Hazard Class(es) :	8
Packing Group :	II

AIR TRANSPORT (ICAO/IATA)

UN/ID No :	UN 1830
Proper Shipping Name :	SULFURIC ACID WITH MORE THAN 51% ACID (Sulfuric

	Acid)
Hazard Class(es) :	8
Packing Group :	II

MARINE TRANSPORT (IMDG/IMO)

UN/ID No :	UN 1830
Proper Shipping Name :	SULFURIC ACID WITH MORE THAN 51% ACID (Sulfuric Acid)
Hazard Class(es) :	8
Packing Group :	II
EmS-Nr. :	F-A, S-B
Marine Pollutant :	No

SPECIAL PRECAUTIONS FOR USER : No special precautions required.

15. REGULATORY INFORMATION

APPLICABLE REGULATIONS, SINGAPORE

Chemical Weapons Prohibition Act
Environmental Protection and Management Act
Hazardous Waste Act
Misuse of Drugs Act
Strategic Goods Act

ENVIRONMENTAL POLLUTION CONTROL ACT :This product contains controlled hazardous substances. A Poison permit is required under the 'Environmental Pollution Control Act'.

Regulated substance:
Sulfuric Acid

INTERNATIONAL CHEMICAL CONTROL LAWS

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CANADA
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

UNITED STATES
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version),
Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH,
(TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

Date issued :	28.02.2013
Version Number :	1.0
Prepared By:	Nalco Asia Pacific, Regulatory Affairs (RA) Specialist