This SDS is made in Japanese and translated into English. The Japanese text made by Sasaki Chemical Co., Ltd. is the original and the English text translated by Nissho Astec Co., Ltd. is for reference purposes. If there is any conflict or inconsistency between these two texts, the Japanese text shall prevail.

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Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical product

Product name: S Clean AL-5000

Product No. (SDS NO): 80158-2

Company identification

Company name: Sasaki Chemical Co., Ltd.

Address: 〒607-8225 10 Kanshuji Nishikitade-cho, Yamashina ku, Kyoto shi, Kyoto, Japan

Department in charge: Research and Development Department

Phone number: 075-584-9141

FAX: 075-593-9784

2. HAZARDOUS INFORMATION

Product's GHS Classification and Label Element

GHS classification

Health Hazards

Acute toxicity (Oral): Category 4

Acute toxicity (Inhalation): Category 2

Skin corrosive /Irritation: Category 1

Serious eyes damage /Eyes irritation: Category 1

Specification target internal organs/systemic toxicity (single exposure): Category 1

Specification target internal organs/systemic toxicity (single exposure): Category 2

Specification target internal organs/systemic toxicity (repeat exposure): Category 2

Environmental Hazards

Acute aquatic toxicity: Category 3

GHS label elements:

Signal word: Danger

Hazard statement

Toxic if swallowed

Fatal if inhaled (gas, vapor, dust and mist)

Causes severe skin burns and eye damage

Causes serious eye damage

Cause damage to organs

May cause damage to organs

Causes damage to organs through prolonged or repeated exposure

Harmful to aquatic life

Precautionary statements

Prevention

P273 Avoid release to the environment

P260 Do not breathe dust/fume/gas/mist/vapor/spray

P284 [In case of inadequate ventilation] wear respirational protection .

P262 Do not get in eyes, on skin or on clothing.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves.

P270 Do not eat, drink or smoke when using this product.

Response

P315 Get immediate medical advice/attention.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P303 + P361 + P353 IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].

P363 Wash contaminated clothing before reuse.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

P401 Store in accordance with international / national / local rules.

P233 Keep container tightly closed.

P235 Keep cool.

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

Disposal

P501 Dispose of the contents / container in accordance with local / national rules.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture/ Substance selection

Mixture

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan
Phosphoric acid	80 -85	7664-38-2	1-422
Nitric acid	9 or less	7697-37-2	1-394

Hazardous ingredients

Safety Law "Hazardous substances to be labeled" Applicable ingredients

Phosphoric acid, Nitric acid

Safety Law "Hazardous substances to be notified" Applicable ingredients

Phosphoric acid, Nitric acid

GHS classification category applicable harmful components

Corrosion symbol applicable ingredients

Phosphoric acid, Nitric acid

Skull symbol applicable ingredient

Phosphoric acid, Nitric acid

Health hazard symbol applicable ingredients

Phosphoric acid, Nitric acid

4. FIRST-AID MEASURES

Description of first aid measures

General measures

Get immediate medical diagnosis / advice.

Get medical attention / advice if you feel unwell.

Exposure or concerns about exposure: Seek medical attention / advice.

The victim should be accompanied and not alone.

No drink should be given to unconscious victims.

Warm and rest the victim.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

If having trouble breathing, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Warm and rest the victims.

If not breathing, provide artificial respiration.

If having trouble breathing, let the victim inhale oxygen.

Get immediate medical diagnosis / treatment.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

Immediately contact doctor.

Do not neutralize with alkaline solution.

Do not use oils or ointments on the injured area without doctor's instructions.

Severe or extensive drug injuries may cause shock symptoms such as pulse, sweating, and collapse. If symptoms occur, lay the patient on his back and be careful to keep the whole body warm.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Rinse so that water can reach all your eyes.

It is necessary to start washing the eyes as soon as possible and completely wash away the substances that have entered. Delays in starting eye washing can increase disability.

Don't rub your eyes.

Immediately contact doctor.

IF SWALLOWED

Rinse mouth. Do not induce vomiting.

Give 1-2 glasses of milk or water to dilute in the stomach. Do not spit out.

No drink should be given to unconscious victims.

Rest the injured and see a doctor immediately.

Protection of those who perform first aid measures

Rescuers wear protective equipment such as rubber gloves and sealed goggles.

Ensure proper ventilation.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Specific hazards arising from the substance or mixture

The container may explode when heated.

Fire can produce irritating, toxic and / or corrosive gases.

Runoff from fire control or dilution water may cause pollution.

Advice for fire fighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Cool the container with atomized water.

Prevent the inflow of fire extinguishing water into the sewage.

Protection of fire fighters

Wear protective gloves / protective clothing / eye protection/ face protection.

It is advisable to wear protective equipment that covers the eyes, nose and mouth to avoid inhalation of smoke containing harmful gases.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate from the area.

Keep unauthorized personnel away.

In case of contact with leaks, immediately rinse skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Work from upwind and evacuate people downwind.

Stop the leak if it can be handled safely.

If necessary, cover your mouth and nose with a towel soaked in water.

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods and materials for containment and cleaning up

Using inert substance (dry sand, soil, etc.) to absorb the leaked product and collect in a container.

If a large amount of spillage occurs, surround it with embankment and then dispose of it.

Label the collected material and store it in a closed container.

Cover with dry lime or soda ash and collect in a covered container.

In case of small amount, dilute with water, neutralize with slaked lime suspension and soda ash aqueous solution, and rinse with a large amount of water.

Preventive measures for secondary accident

Stop leak if you can do it without risk.

Prevent inflow into waterways, sewers, basements, or confined areas.

7. HANDLING AND STORAGE

Precautions for safe handling

Prevention measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

Exhaust/ ventilator

Exhaust / ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

nhalation or contact may cause irritation to the skin and eyes.

Safety measures

Only use outdoors or in a well-ventilated area.

Wear protective gloves / protective clothing / eye protection / face protection.

After using, wash your hands and contaminated areas thoroughly.

When using do not eat, drink or smoke.

Avoid contact with alkaline products due to their acidity.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store in a well-ventilated place. Keep the container tightly closed.

Place in a cool place to block out sunlight.

Storage conditions to pay attention

Keep out of sunlight and do not expose to temperatures above 50 ° C.

There is a risk of metal corrosion. Do not store in metal containers.

Store separately from alkaline substances, cyanide compounds, sulfides, reducing substances, metal powders, combustibles, organic substances, etc.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Control value: No data

Adopted value:

(Phosphoric acid)

Japan Society for Occupational Health (1990) 1mg/m3

(Nitric acid)

Japan Society for Occupational Health (1982) 2ppm; 5.2mg/m3

(Phosphoric acid)

ACGIH(1992) TWA: 1mg/m3;

STEL: 3mg / m3 (upper respiratory tract, eye and skin irritation)

(Nitric acid)

ACGIH(1992) TWA: 2ppm;

STEL: 4ppm (upper respiratory tract and eye irritation; tooth corrosion)

Exposure controls

Appropriate engineering controls

Handle in area with adequate ventilation.

Exhaust / ventilator should be available.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection

Skin and body protection

Wear protective clothing.

Safety and Health measures

Do not get on eyes, skin or clothing.

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash it before reuse.

Wash your hands during breaks and at the end of work.

Gargle at breaks and at the end of work.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical properties

Appearance: viscous liquid

Color: colorless to pale yellow

Odor: irritating odor

pH: strong acidity

Phase change temperature

Initial boiling point/ Boiling point: No data

Melting point/ Freezing point: No data

Flashpoint: Not applicable

Density: 1.72 (20℃)

Solubility

Solubility in water: Miscible

10. STABILITY AND REACTIVITY

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Due to its acidity, this product generates a lot of heat when it comes in contact with alkaline substances.

This product reacts with many metals to generate nitrogen oxide gas and hydrogen gas.

The generated hydrogen gas produces a mixed gas that is flammable and explosive with air.

When heated until being decomposed, this product produces toxic nitrogen oxides and phosphorus oxide.

Conditions to avoid

Direct sunlight and heat.

Incompatible materials

Bases, reducing substance

Metals, organic matter, ammonia, carbon, flammable substances

Hazardous decomposition products

Nitrogen oxide gas, phosphorus oxide, hydrogen gas, oxygen gas

11. TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure (inhalation / oral ingestion, skin / eye contact)

A strongly acidic liquid that irritates the skin and mucous membranes and causes severe drug damage.

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

Mucous membranes such as the oral cavity, esophagus and gastrointestinal tract are affected.

Acute toxicity (Vapor inhalation)

Inhalation of vapor and mist causes sore throat, cough, chest compressions, laryngeal spasms, and pulmonary edema.

Pulmonary edema may occur after 24-48 hours with concentrated vapors.

The dangers associated with inhalation of nitric acid vapor, which is a component, tend to be underestimated because there are no significant subjective symptoms.

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Phosphoric acid)

rat LD50=ca. 2000mg/kg (SIDS, 2011)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Phosphoric acid)

rabbit LD50=2975mg/kg (SIDS, 2011)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Phosphoric acid)

mist: rat LC50=0.9615mg/L/4hr (SIDS, 2011)

(Nitric acid)

mist: rat LC50=49ppm/4hr (Proposal Reason for Allowable Concentration of the Society of Industrial Science and Technology, 1982)

Labor Standards Law: Disease chemicals

Nitric acid

Irritant properties

Skin corrosion/ irritation

Itching and pain occur, followed by severe pain and burns.

Vapors irritate the eyes, skin, mucous membranes, respiratory tracts and lungs.

[GHS Cat. Japan, base data]

(Phosphoric acid)

Rabbit 85% Solution / Corrosive (SIDS, 2011); Irritation I (EPA Pesticide)

(Nitric acid)

Severe human damage (ACGIH 7th, 2001)

Serious eyes damage /Eyes irritation:

The mucous membranes may be irritated, resulting in decreased vision and blindness.

[GHS Cat. Japan, base data]

(Phosphoric acid)

Rabbit (75-85%) Corrosive (SIDS, 2011)

(Nitric acid)

Blindness from non-recoverable corneal opacity (ACGIH 7th, 2001)

Allergenic and sensitizing effects: No data

Germ cell mutagenicity: No data

Carcinogenicity: No data

Teratogenicity effects: No data

Reproductive toxicity: No data

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Specification target organs toxicity (STOT)

STOT – single exposure

[Category 1]

[GHS Cat. Japan, base data]

(Phosphoric acid)

Respiratory apparatus (SIDS, 2011; HSDB, 2014)

(Nitric acid)

Respiratory apparatus (SIDS, 2010)

Specification target organ toxicity (multiple exposure)

[Category 1]

[GHS Cat. Japan, base data]

(Nitric acid)

Respiratory apparatus, teeth (SIDS, 2010)

Aspiration hazard data is not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Phosphoric acid)

Fish (Oryzias) LC50 = 75.1mg / L / 96hr (SIDS, 2011)

(Nitric acid)

Fish (mosquitofish) LC50 = 72mg / L / 96hr (SIDS, 2010)

Water solubility

(Phosphoric acid)

Well dissolve in water (ICSC, 2000)

(Nitric acid)

Miscible (ICSC, 2006)

Persistence and degradability: No data

Bioaccumulative potential

(Nitric acid)

log Pow=-0.21 (ICSC, 2006)

Mobility in soil

Due to its physical and chemical properties, it may move to the soil environment.

Ozone depleting chemical: No data

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

Do not dispose this product in sewage, underground or underwater.

Dilute with a large amount of water.

Neutralize by adding the product little by little to a slaked lime (calcium hydroxide) suspension or an aqueous solution of soda ash (sodium carbonate).

Separate if there is sediment.

Discharge the supernatant after confirming that it is within the wastewater standard value.

Wear appropriate protective equipment when handling.

Alternatively, outsource to an industrial waste disposal company licensed by the prefectural governor.

Contaminated container and packaging

Content should be removed completely before disposal of container.

14. TRANSPORT INFORMATION

UN No., UN Class

UN No.: 3264

Proper shipping name:

Other corrosive liquids, acidic, inorganic, N.O.S.

Class or division: 8

Packing group: II

ERG GUIDE No.: 154

Special provisions No.: 274

Environmental Hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (Yes / No) : No

Specific precautionary transport measures

Avoid direct expose to sunlight or rain during transportation.

Make sure the container is not damaged or leaked.

Avoid collision, tipping, falling or damage while loading.

Make sure to prevent the package from collapsing.

Handle the container carefully to prevent damage, leakage and scattering.

Wear the necessary protective equipment when loading, unloading, moving, filling, etc.

15. REGULATORY INFORMATION

Other regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. OTHER INFORMATION

Reference

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2018 TLVs and BEIs. (ACGIH)

http://monographs.iarc.fr/ENG/Classification/index.php

JIS Z 7253 (2012)

Supplier's data/information

Citation

Chemistry Dictionary	Kyoritsu Shuppan
Chemical disaster prevention guideline	Maruzen
Sangyo chudoku binran	Ishiyaku Publications
15308 chemical products	The Chemical Daily

General disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.