

HOROLITH V**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : ไฮโรลิธ วี
HOROLITH V

Other means of identification : Not applicable

Recommended use : Heavy duty cleaner

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.5 % - 1.0 %

Company : Ecolab Ltd.
101/97 Navanakorn Industrial Estate,
Klongnueng, Klongluang,
Pathumtanee 12120
THAILAND
Telephone : +66-2909-7030
Fax : +66-2909-2274

NALCO INDUSTRIAL SERVICES (THAILAND) CO LTD
Rayong Plant, 109/19 M00 4,
Eastern Seaboard Industrial Estate, Soi ESIE 6,
T. Pluakdaeng, A. Pluakdaeng,
Rayong, THAILAND 21140
TEL: +66-33-109-021

Emergency telephone : +6621269469
Issuing date : 21.12.2023

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification****Product AS SOLD**

Corrosive to Metals : Category 1
Skin corrosion/irritation : Category 1
Serious eye damage/eye irritation : Category 1
Short-term (acute) aquatic hazard : Category 3

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS label elements**Product AS SOLD**

Hazard pictograms :



Signal Word : Danger

SAFETY DATA SHEET

HOROLITH V

Hazard Statements	: May be corrosive to metals. Causes severe skin burns and eye damage. Harmful to aquatic life.
Precautionary Statements	: Prevention: Keep only in original container. Wash skin thoroughly after handling. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection. 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. 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. Immediately call a POISON CENTER or doctor/ physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Storage: Store locked up. Store in corrosive resistant container with a resistant inner liner. Disposal: Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION

Precautionary Statements	: Prevention: Wash hands thoroughly after handling. Response: Get medical advice/ attention if you feel unwell. Storage: Store in accordance with local regulations.
--------------------------	--

Product AS SOLD

Other hazards	: Do not mix with bleach or other chlorinated products – will cause chlorine gas.
---------------	---

Product AT USE DILUTION

Other hazards	: Do not mix with bleach or other chlorinated products – will cause chlorine gas.
---------------	---

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

Pure substance/mixture	: Mixture
------------------------	-----------

Chemical name	CAS-No.	Concentration (%)
Nitric acid	7697-37-2	30 - 60
Phosphoric acid	7664-38-2	5 - 10

Product AT USE DILUTION

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Product AS SOLD

SAFETY DATA SHEET

HOROLITH V

In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
In case of skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
If swallowed	: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled	: Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Protection of first-aiders	: If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	: Treat symptomatically.
Most important symptoms and effects, both acute and delayed	: See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact	: Rinse with plenty of water.
In case of skin contact	: Rinse with plenty of water.
If swallowed	: Rinse mouth. Get medical attention if symptoms occur.
If inhaled	: Get medical attention if symptoms occur.

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	: None known.
Specific hazards during fire fighting	: Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	: Decomposition products may include the following materials: Nitrogen oxides (NOx) Oxides of phosphorus
Special protective equipment for fire-fighters	: Use personal protective equipment.
Specific extinguishing methods	: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SAFETY DATA SHEET

HOROLITH V

Product AS SOLD

Personal precautions, protective equipment and emergency procedures

: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

: Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up

: Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures

: Refer to protective measures listed in sections 7 and 8.

Environmental precautions

: No special environmental precautions required.

Methods and materials for containment and cleaning up

: Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling

: Do not ingest. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing. Do not mix with bleach or other chlorinated products – will cause chlorine gas. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).

Conditions for safe storage

: Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature

: 0 °C to 45 °C

Product AT USE DILUTION

Advice on safe handling

: Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Conditions for safe storage

: Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Ingredients with workplace control parameters

SAFETY DATA SHEET

HOROLITH V

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Nitric acid	7697-37-2	TWA	2 ppm	TH OEL
Phosphoric acid	7664-38-2	TWA	1 mg/m ³	TH OEL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Unsupported neoprene
Nitrile rubber
butyl-rubber

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

An acid gas cartridge may be used.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: liquid	liquid
Color	: clear, colorless	colorless
Odor	: pungent	slight

SAFETY DATA SHEET

HOROLITH V

pH	:	1.0, (100 %)	1.0 - 2.0
Flash point	:	Not applicable	
Odor Threshold	:	No data available	
Melting point/freezing point	:	No data available	
Initial boiling point and boiling range	:	No data available	
Evaporation rate	:	No data available	
Flammability (solid, gas)	:	Not applicable	
Upper explosion limit	:	No data available	
Lower explosion limit	:	No data available	
Vapor pressure	:	No data available	
Relative vapor density	:	No data available	
Relative density	:	1.25 - 1.27	
Water solubility	:	soluble	
Solubility in other solvents	:	No data available	
Partition coefficient: n-octanol/water	:	No data available	
Autoignition temperature	:	No data available	
Thermal decomposition	:	No data available	
Viscosity, kinematic	:	No data available	
Explosive properties	:	No data available	
Oxidizing properties	:	No data available	
Molecular weight	:	No data available	
VOC	:	No data available	

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	None known.
Incompatible materials	:	Bases Metals
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Nitrogen oxides (NOx) Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of : Inhalation, Eye contact, Skin contact

SAFETY DATA SHEET

HOROLITH V

exposure

Potential Health Effects

Product AS SOLD

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.
Inhalation	: May cause nose, throat, and lung irritation.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

Product AT USE DILUTION

Eye contact	: No symptoms known or expected.
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Toxicity

Product AS SOLD

Product

Acute oral toxicity	: Acute toxicity estimate : > 5,000 mg/kg
Acute inhalation toxicity	: No data available
Acute dermal toxicity	: No data available
Skin corrosion/irritation	: No data available

SAFETY DATA SHEET

HOROLITH V

Serious eye damage/eye irritation	: No data available
Respiratory or skin sensitization	: No data available
Carcinogenicity	: No data available
Reproductive effects	: No data available
Germ cell mutagenicity	: No data available
Teratogenicity	: No data available
STOT-single exposure	: No data available
STOT-repeated exposure	: No data available
Aspiration toxicity	: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product AS SOLD

Environmental Effects : Harmful to aquatic life.

Product AT USE DILUTION

Environmental Effects : This product has no known ecotoxicological effects.

Product AS SOLD

Product

Toxicity to fish : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

Components

Toxicity to fish : Nitric acid
96 h LC50: 72 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Phosphoric acid
48 h EC50 Daphnia magna (Water flea): > 100 mg/l

Components

Toxicity to algae : Phosphoric acid
72 h EC50 Desmodesmus subspicatus (green algae): > 100 mg/l

Persistence and degradability

Not applicable - inorganic

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

SAFETY DATA SHEET

HOROLITH V

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods

: Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations

: Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION

Disposal methods

: Diluted product can be flushed to sanitary sewer.

Disposal considerations

: Dispose of in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport

UN number

: 3264

Proper shipping name

: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(Nitric acid, Phosphoric acid)

Class

: 8

Packing group

: II

Environmentally hazardous

: no

Sea transport (IMDG/IMO)

UN number

: 3264

Proper shipping name

: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(Nitric acid, Phosphoric acid)

Class

: 8

Packing group

: II

Marine pollutant

: no

SECTION 15. REGULATORY INFORMATION

The ingredients of this product are reported in the following inventories:

United States TSCA Inventory :

All substances listed as active on the TSCA inventory

Canadian Domestic Substances List (DSL) :

All components of this product are on the Canadian DSL

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS) :

On the inventory, or in compliance with the inventory

SAFETY DATA SHEET

HOROLITH V

New Zealand. Inventory of Chemical Substances :

On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :

On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :

On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances in China (IECSC) :

On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI) :

On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Issuing date : 21.12.2023
Version : 1.1
Prepared by : Regulatory Affairs

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.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.