NALCO Water
An Ecolab Company

SAFETY DATA SHEET

H-550

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	H-550
Other means of identification	:	Not applicable.
Recommended use	:	MICROBIOCIDE
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	12/02/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 3
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Respiratory sensitization	:	Category 1
Skin sensitization	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Toxic if swallowed.
Harmful in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Use only outdoors or in a

well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection. In case of inadequate ventilation wear respiratory protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Glutaraldehyde	111-30-8	50
Methanol	67-56-1	0.1 - 1

Section: 4. FIRST AID MEASURES

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.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

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.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 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

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	:	This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
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). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Glutaraldehyde	111-30-8	Ceiling	0.2 ppm 0.8 mg/m3	NIOSH REL
		Ceiling	0.05 ppm	ACGIH

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 impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
Nitrile-rubber, Butyl-Rubber and Neoprene gloves.
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist.
Where concentrations in air may exceed the limits given in this section or when significant vapours are generated, use an approved air purifying respirator fitted with a gas and vapour cartridge.
Use a particulate pre-filter where operations generate significant mists or aerosols.
Recommended gas and vapour cartridge:
Organic vapor cartridge.
In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA or supplied-air respirator should 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.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour	:	colourless
Odour	:	Aldehyde
Flash point	:	, Method: ASTM D 56, does not flash
pH	:	3.1 - 4.5,(100 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -21 °C, ASTM D-1177
Initial boiling point and boiling range	:	100.5 °C, (760 mm Hg), Method: ASTM D 86
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	16 mm Hg, (20 °C), ASTM D 323,
Relative vapour density	:	1.1
Relative density	:	1.11 - 1.13, (25 °C), ASTM D-1298
Density	:	9.4 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	21 mPa.s (20 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	54 %, 605.12 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Amines Strong Bases

Strong acids

Hazardous decomposition products : Decomposition products may include the following materials:
Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes : Causes serious eye damage.

Skin : Harmful in contact with skin. Causes severe skin burns. May cause allergic skin reaction.

Ingestion : Toxic if swallowed. Causes digestive tract burns.

Inhalation : May cause allergic respiratory reaction. May cause respiratory tract irritation. Harmful if inhaled. May cause nose, throat, and lung irritation.

Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion

Skin contact : Redness, Pain, Irritation, Corrosion, Allergic reactions

Ingestion : Corrosion, Abdominal pain

Inhalation : Respiratory irritation, Cough, May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Toxicity

Product

Acute oral toxicity : LD50 rat: 200 mg/kg
Test substance: Product

Acute inhalation toxicity : LC50 rat: > 27 ppm
Exposure time: 4 hrs
Test substance: Product

LC50 rat: 15 mg/l
Exposure time: 4 hrs
Test atmosphere: vapour
Test substance: Product

Acute dermal toxicity : LD50 rabbit: 1,749 mg/kg
Test substance: Product

Skin corrosion/irritation : no data available

Serious eye damage/eye : no data available

irritation

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

Toxicity

Environmental Effects : Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Product

Toxicity to fish : LC50 Lepomis macrochirus (Bluegill sunfish): 22.4 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

LC50 Pimephales promelas (fathead minnow): 10.8 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Cyprinodon variegatus (sheepshead minnow): 32 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Oncorhynchus mykiss (rainbow trout): 12 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

NOEC Lepomis macrochirus (Bluegill sunfish): 10 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

NOEC Cyprinodon variegatus (sheepshead minnow): 24 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

NOEC Oncorhynchus mykiss (rainbow trout): 9 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

Toxicity to daphnia and other : LC50 Daphnia magna (Water flea): 0.69 mg/l

aquatic invertebrates		Exposure time: 48 hrs Test substance: Product Test Type: Static LC50 Shore Crab: 465 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Static LC50 Grass Shrimp: 41 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Static LC50 Mysid Shrimp (Mysidopsis bahia): 7.1 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Flow-through LC50 Acartia tonsa: 0.11 mg/l Exposure time: 48 hrs Test substance: Active Substance Test Type: Static EC50 American Oyster: 0.78 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Flow-through NOEC Mysid Shrimp (Mysidopsis bahia): 0.78 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Flow-through NOEC American Oyster: 0.16 mg/l Exposure time: 96 hrs Test substance: Active Substance Test Type: Flow-through NOEC Acartia tonsa: 0.029 mg/l Exposure time: 48 hrs Test substance: Active Substance Test Type: Static EC50 Daphnia magna: 0.75 mg/l Exposure time: 48 hrs Test substance: Product Test Type: Static
Toxicity to algae	:	LC50 Marine Algae (Skeletonema costatum): 0.61 mg/l Exposure time: 72 hrs Test substance: Active Substance LC50 Algae (Scenedesmus subspicatus): 0.97 mg/l Exposure time: 96 hrs

Test substance: Active Substance

LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 2.64 mg/l
Exposure time: 72 hrs
Test substance: Product

NOEC Marine Algae (Skeletonema costatum): 0.33 mg/l
Exposure time: 72 hrs
Test substance: Active Substance

NOEC Algae (Scenedesmus subspicatus): 0.33 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

Toxicity to bacteria : LC50 Sewage Microorganisms: > 50 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

: LC50 Bacteria: 17 - 25 mg/l
Exposure time: 16 hrs
Test substance: Active Substance

Toxicity to fish (Chronic toxicity) : LOEC: 2.9 mg/l
Exposure time: 28 Days
Species: Fathead Minnow
Test substance: Active Substance

NOEC: 1.4 mg/l
Exposure time: 28 Days
Species: Fathead Minnow
Test substance: Active Substance

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 4.25 mg/l
End point: Reproduction
Exposure time: 21 Days
Species: Daphnia magna
Test substance: Active Substance
Test Type: 3 Brood

Toxicity to terrestrial organisms : LC50 Bobwhite Quail: Exposure time: 8 Days
Test substance: Active Substance

LC50 Mallard Duck: Exposure time: 8 Days
Test substance: Active Substance

LC50 Mallard Duck: 933 mg/kg
Test substance: 50% Active Ingredient

Persistence and degradability

Biodegradability : Result: Readily biodegradable.

The organic portion of this preparation is expected to be readily biodegradable.

Chemical Oxygen Demand (COD): 900,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
	0 mg/l	

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	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

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 contents/container in accordance 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 re-use empty containers.

Section: 14. TRANSPORT INFORMATION

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 (DOT)

Proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s)	:	GLUTARALDEHYDE

UN/ID No.	:	UN 2922
Transport hazard class(es)	:	8, 6.1
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s)	:	GLUTARALDEHYDE
UN/ID No.	:	UN 2922
Transport hazard class(es)	:	8, 6.1
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s)	:	GLUTARALDEHYDE
UN/ID No.	:	UN 2922
Transport hazard class(es)	:	8, 6.1
Packing group	:	II
*Marine pollutant	:	GLUTARALDEHYDE

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPA Reg. No. : 464-704-1706

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

⚠ **WARNING:** Reproductive Harm - www.P65Warnings.ca.gov

Methanol 67-56-1

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

Japan. ENCS - Existing and New Chemical Substances Inventory
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. Korean Existing Chemicals Inventory (KECI)
On the Korea Existing Chemicals Inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
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).

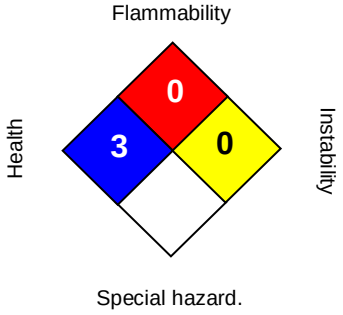
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	**3***
FLAMMABILITY	**0**
PHYSICAL HAZARD	**0**

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	12/02/2024
Version Number	:	1.7
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.
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