

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 1 of 12

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

OXALIC ACID 0.05M (0.1N)NIST TRACEABLE.

OTHER NAMES

C2-H6-O6, (COOH)2.2H2O, "ethanedioic acid", "ethandioic acid", "oxalic acid, dihydrate"

PRODUCT USE

volumetric solution for analysis

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,

MUMBAI- 400030.INDIA.

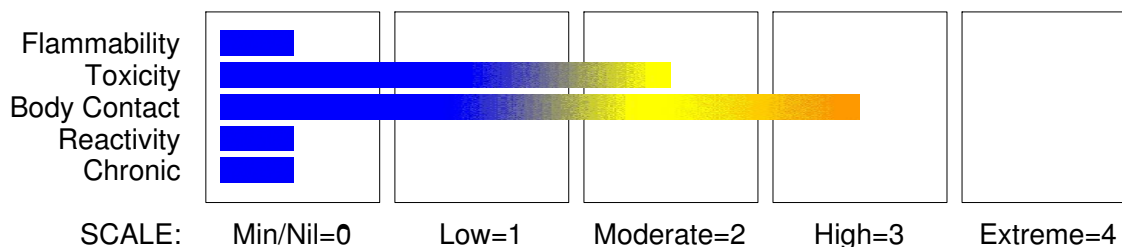
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Dermal) Category 4

Acute Toxicity (Oral) Category 4

Skin Corrosion/Irritation Category 1C

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 2 of 12

Section 2 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H312 H302 H314

Harmful in contact with skin

Harmful if swallowed

Causes severe skin burns and eye damage

PRECAUTIONARY STATEMENTS

Prevention

Wear protective gloves/clothing and eye/face protection.

Wear protective gloves/clothing

Do not breathe dust or mist.

Wash thoroughly after handling.

Wash hands thoroughly after handling.

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

Response

If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment: refer to Label or MSDS.

Call a POISON CENTER or doctor/physician if you feel unwell.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Gently wash with plenty of soap and water.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
oxalic acid	144-62-7	1.0
water		>99

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 3 of 12

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- 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 unconscious
- 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 fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treatment must be prompt.

- Give immediately by mouth, a dilute solution of any soluble calcium salt; calcium lactate, lime water, finely pulverised chalk or plaster suspended in a large volume of water or milk. Large amounts of calcium are required to inactivate oxalate by precipitating it as the insoluble calcium salt. Do NOT give an emetic drug.
- Perform gastric lavage carefully or not at all if severe mucosal injury is evident. Dilute lime water (calcium hydroxide) makes a good lavage fluid if used in large quantity.
- Administer a slow intravenous injection of 10-20 ml of calcium gluconate (10% solution) or of calcium chloride (5% solution). This injection may be repeated frequently to prevent hypocalcaemic tetany. Calcium gluconate (10 m) may also be given intramuscularly every few hours. Calcium compounds are never given subcutaneously; even the intramuscular route is hazardous in infants because of the incidence of sloughing.
- In severe cases parathyroid extract (100 USP units) should be given intramuscularly.
- Morphine may be necessary to control pain.
- Treat shock by cautious intravenous injection of isotonic saline solution. Check for

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 4 of 12

Section 4 - FIRST AID MEASURES

metabolic acidosis and infuse sodium bicarbonate if necessary.

- Watch for oedema of the glottis late formation of oesophageal stricture.
- Useful demulcents by mouth include milk of magnesia, bismuth subcarbonate, and mineral oil.
- Prophylactic and therapeutic measures in anticipation of renal damage.

[GOSSELIN SMITH HODGE: Clinical Toxicology of Commercial Products].

Effective therapy against burns from oxalic acid involves replacement of calcium.

Intravenous oxalic acid is substantially excreted (88% - 90%) in the urine within 36 hours.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.
Carbon dioxide.
Dry chemical powder.
Foam.

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 water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- 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.

FIRE/EXPLOSION HAZARD

Combustible. Will burn if ignited.

Personal Protective Equipment

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

Clear area of personnel and move upwind.

- 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.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 5 of 12

Section 6 - ACCIDENTAL RELEASE MEASURES

- Water spray or fog may be used to disperse / absorb vapour.
- Contain or absorb spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

oxalic acid dihydrate 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

oxalic acid dihydrate 5 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

oxalic acid dihydrate 2 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

oxalic acid dihydrate 1 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 6 of 12

Section 7 - HANDLING AND STORAGE

- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid smoking, naked lights or ignition sources.
- When handling, DO NOT eat, drink or smoke.
- Avoid contact with incompatible materials.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Working clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing/handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

DO NOT use mild steel or galvanised containers.

STORAGE INCOMPATIBILITY

Avoid storage with oxidising agents, strong alkalis and silver compounds.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- 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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- oxalic acid dihydrate: CAS:6153- 56- 6 CAS:144- 62- 7
- oxalic acid: CAS:144- 62- 7 CAS:63504- 28- 9 CAS:97993- 78- 7
CAS:216451- 38- 6

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
oxalic acid dihydrate	500 [Unch]	
oxalic acid	500 [Unch]	

MATERIAL DATA

No exposure limits set by NOHSC or ACGIH.

INGREDIENT DATA

OXALIC ACID:

There is only scant data regarding the toxicology of industrial exposure to airborne oxalates. There is no data regarding potential systemic toxicity or bioavailability of inhaled oxalates. The TLV-TWA (corresponding

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 7 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

to 0.27 ppm on a molecular basis) is comparable to that of sulfuric acid and phosphoric acid and is thought to provide protection against the risk of eye and skin burns and respiratory tract irritation.

The recommendation for a STEL is added to prevent irritation of skin and mucous membranes.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Rubber gloves.
Synthetic gloves.
Rubber boots.

OTHER

Overalls and PVC apron.
• Ensure that there is ready access to eye wash unit.

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 your Occupational Health and Safety Advisor.

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 8 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Use in a well-ventilated area.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:

- (a): particle dust respirators, if necessary, combined with an absorption cartridge;

- (b): filter respirators with absorption cartridge or canister of the right type;

- (c): fresh-air hoods or masks

- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.

- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:

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:

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 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 9 of 12

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

liquid

Molecular Weight: NA .
Melting Range (°C): NA
Solubility in water (g/L): Miscible
pH (1% solution): 1.3 (0.1 M sol)
Volatile Component (%vol): Not available
Relative Vapour Density (air=1): Not available.
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not available.
State: Divided solid

Boiling Range (°C): NA
Specific Gravity (water=1): 1
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not available.
Evaporation Rate: Not available
Flash Point (°C): Not available.
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C):NA
Viscosity: Not Applicable

log Kow: -0.81- -0.43

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of incompatible materials.
Stable under normal storage conditions.
Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Soluble or solubilised oxalates act as severe corrosive agents within the alimentary tract and may be lethal as a result of severe gastroenteritis and secondary shock. Where gastrointestinal symptoms are absent (as is the case with dilute solutions) systemic effects may dominate resulting in muscle twitching, cramps and central nervous system depression.

Neuromuscular effects are the result of the calcium-complexing action of oxalate and the subsequent depression of body fluid calcium ion. This form of hypocalcaemia is thought to produce severe disturbances in heart and brain function. Calcium oxalate also deposits in the soft tissues of the kidney and liver and may result in renal damage with the development of lesions and mechanical injury.

Symptoms of poisoning may include vomiting (often bloody with coffee-ground appearance), pain, weak, irregular pulse, headache, muscular cramp, tetany and, sometimes, convulsion, stupor and coma. Oliguria, albuminuria and hematuria may persist for several weeks as a result of kidney damage.

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 10 of 12

Section 11 - TOXICOLOGICAL INFORMATION

EYE

The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
Dilute solutions of low-molecular organic acids cause conjunctival hyperaemia, prompt pain and corneal injury.
The material may produce severe irritation to the eye causing pronounced inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

Skin contact with the material may be harmful; systemic effects may result following absorption.
The material can produce chemical burns following direct contact with the skin.
if exposure is prolonged.
Solution of material in moisture on the skin, or perspiration, may increase irritant effects.
Bare unprotected skin should not be exposed to this material.
The material may accentuate any pre-existing dermatitis condition.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

CHRONIC HEALTH EFFECTS

Considered toxic by all exposure routes.
Principal routes of exposure are usually by.
inhalation of generated dust and skin contact with the material.
Prolonged and severe exposure can cause chronic cough, albuminurea, vomiting, pain in the back and gradual emaciation and weakness.
Prolonged or repeated overexposure may result in delayed liver and/or kidney damage. Certain rare individuals are subject to oxalosis (deposition of oxalates in the kidneys) and are unusually reactive to exposure.

TOXICITY AND IRRITATION

TOXICITY

Oral (Rat) LD50: 7500 mg/kg *
Oral (rat) TDLo: 1400 mg/kg**
Intraperitoneal (Mouse) LD50: 270 mg/kg mg/kg *

* Supreme Resources MSDS

IRRITATION

Eye (rabbit): 250 mg/24 h - SEVERE *
Skin (rabbit): 500 mg/24 h - Mild

OXALIC ACID:
Not available. Refer to individual constituents.

Section 12 - ECOLOGICAL INFORMATION

No data for oxalic acid dihydrate.
Refer to data for ingredients, which follows:

OXALIC ACID:

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 11 of 12

Section 12 - ECOLOGICAL INFORMATION

Daphnia magna EC50 (48hr.) (mg/l):	25
Algae IC50 (72hr.) (mg/l):	80- 790
log Pow (Verschuieren 1983):	1.88372093
BOD5:	0.1
BOD20:	0.115
COD:	0.18
ThOD:	0.18

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

log Kow: -0.81- -0.43

BOD 5 if unstated: 0.086-0.14

COD: 0.126-0.18

ThOD: 0.18

Toxicity Fish: TLm(24)4000mg/L

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

WASTE DISPOSAL PROCEDURES

- Collect and package recoverable quantities of oxalic acid in labelled containers for recycling or disposal by incineration. Wear nitrile rubber gloves, protective clothing and eye protection to control personal contact from small quantities oxalic acid. Work in a well ventilated area. Add 5g of oxalic acid to 25mL of concentrated sulphuric acid in a 100mL flask. Heat the mixture between 80- 100 degrees Celsius for 30 minutes. Allow the reaction mixture to cool to room temperature and pour the sulphuric acid into a pail of cold water. Neutralise with sodium carbonate and empty into the drain with water. Salts of oxalic acid can be decomposed the opposite way to oxalic acid [Armour 1996].

SPILLAGE DISPOSAL

- Wear nitrile rubber gloves, protective clothing, eye protection and a body shield to control personal contact from oxalic acid. Cover and contain the spill with a 1:1:1 mixture by weight of sodium carbonate or calcium carbonate, bentonite and sand. Scoop the mixture into a plastic container and place in a well ventilated area. Add the mixture to a container of cold water. Allow to stand for 24 hours. Neutralise the pH of the solution with sodium carbonate. Empty the solution into the drain with water. Discard the solid residue with normal refuse [Armour 1996].

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

continued...

OXALIC ACID 0.05M (0.1N) NIST TRACEABLE

GHS Safety Data Sheet

Version No:1

Page 12 of 12

Section 15 - REGULATORY INFORMATION

REGULATIONS

oxalic acid dihydrate (CAS: 6153-56-6) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
oxalic acid	144- 62- 7, 63504- 28- 9, 97993 - 78- 7, 216451- 38- 6

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 30-Aug-2017