

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/06/2017

Reviewed on 07/21/2014

1 Identification

- **Product identifier**
- **Trade name:** Sulfate Indicator
Solution, AF Grade
- **Article number:** 255-03
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
OFI Testing Equipment Inc.
11302 Steeplecrest Dr.
Houston, TX 77065
(877) 837-8683
- **Information department:** techservices@ofite.com
- **Emergency telephone number:**
INFOTRAC USA - CANADA: 1-800-535-5053
INTERNATIONAL: 1-352-323-3500



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

1,2 Propanediol (Propylene Glycol)

Barium Chloride Dihydrate

- **Hazard statements**

Harmful if swallowed.

Toxic in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

- **Precautionary statements**

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

Wash thoroughly after handling.

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

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 57-55-6	1,2 Propanediol (Propylene Glycol)	33.472%
CAS: 10326-27-9	Barium Chloride Dihydrate	9.231%
CAS: 7647-01-0	Hydrochloric Acid	1.708%

· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	55.589%
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4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

CAS: 57-55-6	1,2 Propanediol (Propylene Glycol)	30 mg/m3
CAS: 10326-27-9	Barium Chloride Dihydrate	2.7 mg/m3
CAS: 7647-01-0	Hydrochloric Acid	1.8 ppm

· PAC-2:

CAS: 57-55-6	1,2 Propanediol (Propylene Glycol)	1,300 mg/m3
CAS: 10326-27-9	Barium Chloride Dihydrate	330 mg/m3
CAS: 7647-01-0	Hydrochloric Acid	22 ppm

· PAC-3:

CAS: 57-55-6	1,2 Propanediol (Propylene Glycol)	7,900 mg/m3
CAS: 10326-27-9	Barium Chloride Dihydrate	2,000 mg/m3
CAS: 7647-01-0	Hydrochloric Acid	100 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

CAS: 57-55-6 1,2 Propanediol (Propylene Glycol)

TWA	Short-term value: 10 mg/m ³ weel
WEEL	Long-term value: 10 mg/m ³

CAS: 10326-27-9 Barium Chloride Dihydrate

PEL	Long-term value: 0.5 mg/m ³ as Ba
REL	Long-term value: 0.5 mg/m ³ as Ba
TLV	Long-term value: 0.5 mg/m ³ as Ba

CAS: 7647-01-0 Hydrochloric Acid

NIOSH RECOMENDED EXP LIM	Ceiling limit value: 7.0 mg/m ³ mg/m ³
TLV	Ceiling limit value: 2.0 ppm mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** 101 °C (214 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

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- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - Water:** 55.6 %
 - VOC content:** 0.0 g/l / 0.00 lb/gl
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	1083 mg/kg
Dermal	LD50	552 mg/kg (mouse)
Inhalative	LC50/4 h	119 mg/l

CAS: 57-55-6 1,2 Propanediol (Propylene Glycol)

Oral	LD50	20000 mg/kg (rat)
Dermal	LD50	20800 mg/kg (rabbit)
Irritation of skin	Skin Corrosion/Irritation	(Human)
Irritation of eyes	Eye damage/eye irritation	(rabbit)

CAS: 10326-27-9 Barium Chloride Dihydrate

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	51 mg/kg (mouse)
Inhalative	LC50/4 h	11 mg/l (ATE)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Harmful

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Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Not known to be hazardous to water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA**

UN2922

· **UN proper shipping name**

· **DOT**

Corrosive liquids, toxic, n.o.s. (Hydrochloric acid, Barium Chloride Dihydrate)

· **IMDG, IATA**

CORROSIVE LIQUID, TOXIC, N.O.S. (HYDROCHLORIC ACID, Barium Chloride Dihydrate)

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· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances
· **Label** 8, 6.1

· **IMDG**



· **Class** 8 Corrosive substances
· **Label** 8/6.1

· **IATA**



· **Class** 8 Corrosive substances
· **Label** 8 (6.1)

· **Packing group**

· **DOT, IMDG, IATA** III

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances
· **Danger code (Kemler):** 86
· **EMS Number:** F-A,S-B
· **Segregation groups** Acids
· **Stowage Category** B
· **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

· **IMDG**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

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· **UN "Model Regulation":** UN 2922 CORROSIVE LIQUIDS, TOXIC, N.O.S.
(HYDROCHLORIC ACID, BARIUM CHLORIDE DIHYDRATE), 8
(6.1), III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 10326-27-9 Barium Chloride Dihydrate

· **TSCA (Toxic Substances Control Act):**

CAS: 57-55-6 1,2 Propanediol (Propylene Glycol)

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 10326-27-9 Barium Chloride Dihydrate D, CBD(inh), NL(oral)

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 10326-27-9 Barium Chloride Dihydrate A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06 GHS07

- **Signal word** Danger

· **Hazard-determining components of labeling:**

1,2 Propanediol (Propylene Glycol)

Barium Chloride Dihydrate

· **Hazard statements**

Harmful if swallowed.

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Toxic in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

· **Precautionary statements**

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

Wash thoroughly after handling.

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

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

Revision 0.1, 05-05-2015: revised to correct emergency and information contacts. STN

Creation date for SDS 07-21-2014. LS

Revision 0.2, 07-06-2017: Reviewed SDS. STN

07/06/2017 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A