

SAFETY DATA SHEET

Issuing date no data available

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Version 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: INDUSTREX LO Fixer and Replenisher

Product code: 1634559

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608

For Emergency Health Information call: 800-424-9300

For other information contact: 800-328-2910

Product Use: Restricted to professional users. Photographic chemical.

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Label Elements

Emergency Overview

Signal Word	Not Classified		
Appearance Colorless Liquid	Physical state liquid	Odor Ammonia	

Precautionary Statement - Response
not applicable

Hazards not otherwise classified (HNOC)

- May be harmful if swallowed
-

Other information

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Water 7732-18-5	7732-18-5	40-50	*
Ammonium thiosulfate 7783-18-8	7783-18-8	30-40	*

Sodium bisulfite 7631-90-5	7631-90-5	1-5	*
Ammonium bisulfite 10192-30-0	10192-30-0	1-5	*
Potassium acetate 127-08-2	127-08-2	1-5	*
Ammonium acetate 631-61-8	631-61-8	1-5	*
Sodium borate 1330-43-4	1330-43-4	1-2	*
Aluminum sulfate 10043-01-3	10043-01-3	1-5	*

*The exact percentages (concentrations) have been withheld as trade secrets.

4. FIRST AID MEASURES

First Aid Measures

General advice	If symptoms persist, call a physician.
Eye contact	In case of contact, immediately flush eyes with plenty of water. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention immediately if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Inhalation	Move to fresh air. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Main Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media

None.

Specific hazards arising from the chemical

Dried product residue can act as a reducing agent. Reacts violently with oxidizing materials. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

Hazardous Combustion Products

Carbon oxides, Nitrogen oxides (NO_x), Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection see section 8. Ensure adequate ventilation.

Environmental precautions

Environmental precautions Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place.

Incompatible products Acids. Strong bases. Oxidizing agents. Halogenated compounds. Contact with strong acids liberates sulfur dioxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Sodium bisulfite 7631-90-5	TWA: 5 mg/m ³		-	
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³		-	
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m ³	

Appropriate engineering controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	liquid	Odor	Ammonia
Appearance	Colorless Liquid	Odor Threshold	No information available
Color	colorless		
Property	Values	Remarks/ • Method	
ph	4.9	No information available	
Melting point/range:		No information available	
Boiling point/boiling range	> 100 °C	No information available	
Flash Point		No information available.	
Evaporation rate		No information available	
Flammability (solid, gas)			
upper flammability limit			
lower flammability limit			
Vapor pressure	24 mbar @ 20 °C	No information available	
Vapor density	0.6	No information available	
Specific Gravity		No information available	
Water Solubility	completely soluble	No information available	
Solubility in other solvents		No information available	
Partition coefficient: n-octanol/water		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic		No information available	
Viscosity, dynamic		No information available	
Explosive properties	No information available		
Oxidizing Properties	No information available		
Other information			
Softening point	No information available		
Density VALUE	No information available		
Bulk Density VALUE	No information available		

10. STABILITY AND REACTIVITY**Reactivity**

None under normal use conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with bases liberates flammable material and ammonia.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Do not freeze.

Incompatible Materials

Acids. Strong bases. Oxidizing agents. Halogenated compounds. Contact with strong acids liberates sulfur dioxide.

Hazardous Decomposition Products

Ammonia. Chloramine. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract.
Eye contact	May cause eye irritation.
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium thiosulfate 7783-18-8	> 2000 mg/kg (Rat)		
Sodium bisulfite 7631-90-5	1420 mg/kg (Rat)		
Potassium acetate 127-08-2	3250 mg/kg (Rat)		
Sodium borate 1330-43-4	2403 mg/kg (Rat)	2000 mg/kg (Rabbit)	
Aluminum sulfate 10043-01-3	> 5000 mg/kg (Rat)		

Chemical Name	Other applicable information
Ammonium thiosulfate	No skin irritation No eye irritation
Sodium bisulfite	No skin irritation No eye irritation
Sodium borate	Based on repeated-dose ingestion studies in animals, may cause adverse reproductive and developmental effects. However, the doses administered were many times those to which humans would normally be exposed.

Aluminum sulfate	Severe eye irritation No skin irritation Cell transformation assay: negative Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
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Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
mutagenic effects No information available.
Carcinogenicity Contains no ingredient listed as a carcinogen.
Reproductive toxicity Contains a known or suspected reproductive toxin. However, based on available data the product should not be classified for reproductive effects.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Prolonged exposure may cause chronic effects.
Target Organ Effects Eyes, Skin, Respiratory system.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 4,413.31 mg/kg
ATEmix (dermal) 59,282.35 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium bisulfite 7631-90-5		LC50= 240 mg/L <i>Gambusia affinis</i> 96 h		EC50 = 119 mg/L 48 h (<i>Daphnia magna</i>)
Potassium acetate 127-08-2		LC50= 6800 mg/L <i>Oncorhynchus mykiss</i> 96 h		EC50 = 7170 mg/L 24 h (<i>Daphnia magna</i>)
Sodium borate 1330-43-4	158 mg/L EC50 96 h (<i>Desmodesmus subspicatus</i>) 2.6 - 21.8 mg/L EC50 96 h (<i>Pseudokirchneriella subcapitata</i>)	LC50= 340 mg/L <i>Limanda limanda</i> 96 h		LC50 1085 - 1402 mg/L 48 h (<i>Daphnia magna</i>)
Aluminum sulfate 10043-01-3		LC50= 100 mg/L <i>Carassius auratus</i> 96 h LC50= 37 mg/L <i>Gambusia affinis</i> 96 h		EC50 = 136 mg/L 15 min (<i>Daphnia magna</i>)
Acetic acid 64-19-7		LC50= 79 mg/L <i>Pimephales promelas</i> 96 h LC50= 75 mg/L <i>Lepomis macrochirus</i> 96 h		EC50 = 47 mg/L 24 h (<i>Daphnia magna</i>) EC50 = 65 mg/L 48 h (<i>Daphnia magna</i>)

Persistence and degradability

Expected to be readily biodegradable.

Bioaccumulation:

Not likely to bioaccumulate.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste Disposal Methods**

Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers. Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

DOT

Not regulated

TDG

Not regulated

ICAO/IATA

Not regulated

IMDG/IMO

Not regulated

For transportation information, go to: <http://ship.carestreamhealth.com>.**15. REGULATORY INFORMATION**

"Does not comply" indicates a component is either not on the public inventory or is subject to exemption requirements. If additional information is needed contact Carestream Health.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values %
Ammonium thiosulfate - 7783-18-8	1.0
Ammonium bisulfite - 10192-30-0	1.0
Ammonium acetate - 631-61-8	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium bisulfite	5000 lb			X
Ammonium bisulfite	5000 lb			X
Ammonium acetate	5000 lb			X
Aluminum sulfate	5000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Product RQ
Sodium bisulfite	5000 lb		
Ammonium bisulfite	5000 lb		
Ammonium acetate	5000 lb		
Aluminum sulfate	5000 lb		

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Sodium bisulfite	PAIR: 01/26/1994
Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Sodium bisulfite	01/26/1994

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium thiosulfate	X		X		
Sodium bisulfite	X	X	X		X
Ammonium bisulfite	X	X	X		
Ammonium acetate	X	X	X		
Sodium borate	X		X		
Aluminum sulfate	X	X	X		

International Regulations

Mexico - Grade Slight risk, Grade 1

Chemical Name	Carcinogen Status	Exposure Limits
Sodium borate		Mexico: TWA 1 mg/m ³
Aluminum sulfate		Mexico: TWA 2 mg/m ³

16. OTHER INFORMATION

NFPA
HMIS

Health Hazard 1
Health Hazard 1*

Flammability 1
Flammability 1

Instability 0
Physical Hazard 0

Revision Date

2013-03-13

Revision Note

Name change, Update to OSHA GHS SDS format

Disclaimer

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.

End of Material Safety Data Sheet