

SAFETY DATA SHEET

Issuing date 01/15/2016

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Version 4

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

Product name: INDUSTREX LO Fixer and Replenisher

Product code: 1634559

Supplier Carestream Health Canada, 8800 Dufferin Street, Suite 201, Vaughan, Ontario, L4K 0C5

For Emergency Health Information call: 800-424-9300

For other information contact: 1-866-792-5011

Product Use: Restricted to professional users. Photographic chemical.


2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye Irritation

Category 2A

Label elements

		Emergency Overview
<p>Signal word</p> <p>Hazard Statements Causes serious eye irritation</p> <div style="text-align: center;">  </div>	<p>Warning</p>	
<p>Appearance Colorless Liquid</p>	<p>Physical state liquid</p>	<p>Odor Ammonia</p>

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Hazards not otherwise classified (HNOC)

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Other Information

May be harmful if swallowed.

No information available

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	1-6	*
Ammonium sulfite 10196-04-0	10196-04-0	1-3	*
Potassium acetate 127-08-2	127-08-2	1-5	*
Acetic acid 64-19-7	64-19-7	1-<3	*
Aluminum sulfate 10043-01-3	10043-01-3	1-<3	*
Sodium borate 1330-43-4	1330-43-4	1-3	*

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

4. FIRST AID MEASURES

First Aid Measures

General advice	Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.
Eye contact	Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.
Skin contact	Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediate medical attention is required. Administer oxygen if breathing is difficult. If not breathing, give artificial respiration.
Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

Most important symptoms and effects, both acute and delayed

Main Symptoms May be harmful if swallowed. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. May cause sensitization of susceptible persons.

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. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up 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). Clean contaminated surface thoroughly.

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. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible products Acids. Strong bases. Oxidizing agents. Halogenated compounds. Sodium hypochlorite.

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		-	

Acetic acid 64-19-7	STEL: 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m ³	
Sodium borate 1330-43-4	STEL: 6 mg/m ³ TWA: 2 mg/m ³		-	

Appropriate engineering controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

- Eye/Face Protection** Tightly fitting safety goggles. Face-shield.
- Skin and body protection** Long sleeved clothing. Protective gloves. Skin contact should be prevented through use of suitable protective clothing, gloves, and footwear, selected with regard of use conditions and exposure potential.
- Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing.

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	
Oxidizing Properties	No information available		
Explosive properties	No information available		
Other information		No information available	
Softening point			
Molecular Weight	No information available	No information available	
Density		No information available	
Bulk Density:		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. Sodium hypochlorite.

Hazardous Decomposition Products

Ammonia. Chloramine. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.
Eye contact	Causes serious eye irritation. Avoid contact with eyes. Causes eye irritation.
Skin contact	Mild skin irritation.
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. 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	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	90,000 mg/kg (Rat)	-	-
Ammonium thiosulfate 7783-18-8	> 2000 mg/kg (Rat)	-	-
Sodium bisulfite 7631-90-5	1420 mg/kg (Rat)	-	-
Ammonium sulfite 10196-04-0	2500 mg/kg (Rat)	-	-
Potassium acetate 127-08-2	3250 mg/kg (Rat) Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)	-	-
Acetic acid 64-19-7	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h Inhalation LC50 Rat 11.4 mg/L 4 h (Source: NLM_CIP)
Aluminum sulfate 10043-01-3	> 5000 mg/kg (Rat)	-	-
Sodium borate 1330-43-4	2660 mg/kg (Rat) Oral LD50 Rat 2660 mg/kg (Source: JAPAN_GHS)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	-

Chemical Name	Other applicable information
Acetic acid	Severe eye irritation Severe skin irritation Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occurred, and the ventilation rate in the room.
Aluminum sulfate	Severe eye irritation No skin irritation Cell transformation assay: negative Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
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.

Information on toxicological effects

Symptoms Irritant.

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

Serious eye damage/eye Irritation No information available.
Irritation Severe eye irritant.
Corrosivity Risk of serious damage to eyes.
Sensitization May cause sensitization by inhalation.
mutagenic effects No information available.
Carcinogenicity Contains no ingredients above reportable quantities 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
Target Organ Effects Eyes, Skin, Respiratory system.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

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

ATEmix (oral) 4166 mg/kg
ATEmix (dermal) 46694 mg/kg ppm
ATEmix (inhalation-dust/mist) 690.9 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated

42.02% of the mixture consists of component(s) of unknown hazards to the aquatic environment

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

Persistence and degradability

Expected to be readily biodegradable.

Bioaccumulation:

No information available.

Chemical Name	log Pow
Acetic acid 64-19-7	-0.31

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

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 regulatedFor transportation information, go to: <http://ship.carestream.com>

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Revision Date 01/15/2016
Revision Note (M)SDS sections updated

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text