

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

### Identification of the substance or mixture

**Product name:** INDUSTREX LO Fixer and Replenisher

**Product code:** 6620058

**Pure substance/mixture** Mixture

### Use of the Substance/Mixture

**Product Use:** Restricted to professional users, Photographic chemical.

### Company/Undertaking Identification

**Manufacturer:** Kodak (Wuxi) Company Ltd,  
No. 18, Changjiang Road,  
Wuxi, JiangSu Province,  
China 214028

### For further information, please contact:

For environment, health and safety information, email: WW-EHS@carestreamhealth.com

### Emergency telephone

For Chemical Emergency Information, call: 0510-85252120

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute oral toxicity	Category 5
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### GHS Label elements, including precautionary statements

## WARNING

### Hazard statements

H303 - May be harmful if swallowed

### Precautionary Statements

P312 - Call a POISON CENTER or doctor/ physician if you feel unwell

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %
Water	40-50
Ammonium thiosulfate	30-40

Sodium bisulfite	1-5
Ammonium bisulfite	1-5
Potassium acetate	1-5
Ammonium acetate	1-5
Sodium borate	1-2
Aluminum sulfate	1-5

#### 4. FIRST AID MEASURES

##### Description of necessary first-aid measures

<b>General advice</b>	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
<b>Main Symptoms</b>	None known.
<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water. Get medical attention immediately if symptoms occur.
<b>Skin contact</b>	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.
<b>Inhalation</b>	Move to fresh air. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	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/effects, acute and delayed

<b>Skin contact</b>	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Eye contact</b>	May cause eye irritation.
<b>Inhalation</b>	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.
<b>Ingestion</b>	May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

##### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	Treat symptomatically.
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#### 5. FIRE-FIGHTING MEASURES

##### Suitable Extinguishing Media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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**Extinguishing media which shall not be used for safety reasons**

None known based on information supplied.

Specific hazards arising from the chemical

**Special Hazard**

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).

Special protective actions for fire-fighters

**Special protective equipment for fire-fighters**

Wear self-contained breathing apparatus and protective suit.

Other information

**Other information**

None known.

**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation.

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 materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

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

Other information

See Section 12 for additional Ecological information.

**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.

**Prevention of fire and explosion**

Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups

Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions**

Keep container tightly closed in a dry and well-ventilated place.

**Materials to Avoid**

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure limits

Chemical Name	Taiwan	China	ACGIH TLV	European Union
Sodium bisulfite	STEL 10 mg/m <sup>3</sup>		TWA: 5 mg/m <sup>3</sup>	
Sodium borate			STEL 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	

### Appropriate engineering controls

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

### Individual protection measures, such as personal protective equipment (PPE)

#### Personal Protective Equipment

<b>General Information</b>	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.
<b>Respiratory protection</b>	None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>Eye Protection</b>	Safety glasses with side-shields
<b>Skin and body protection</b>	Wear protective gloves/ protective clothing.
<b>Hand Protection</b>	Protective gloves

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b> liquid	<b>Odor</b> Ammonia
<b>ph</b> 4.9	<b>Color</b> colorless
<b>Flash point:</b> Does not flash	<b>Autoignition temperature:</b> No information available
<b>Boiling point/boiling range</b> > 100 °C	
<b>Vapor Pressure</b> 24 mbar @ 20 °C	
<b>Vapor density</b> 0.6	
<b>Density</b> No information available	
<b>Water Solubility</b> completely soluble	
<b>Melting point/range:</b> No information available	
<b>Specific Gravity</b> 1.30	
<b>Bulk Density:</b> No information available	

## 10. STABILITY AND REACTIVITY

### Reactivity

No dangerous reaction known under conditions of normal use

#### 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.

#### Conditions to Avoid

Do not freeze.

#### Materials to Avoid

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

#### Hazardous Decomposition Products

Ammonia. Chloramine. Sulfur oxides.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity Product Information.

<b>Skin contact</b>	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Eye contact</b>	May cause eye irritation.
<b>Inhalation</b>	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.
<b>Ingestion</b>	May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.
<b>Acute toxicity</b>	0% of the mixture consists of ingredient(s) of unknown toxicity
<b>Oral</b>	4,413.31 mg/kg
<b>Dermal</b>	59,282.35 mg/kg
<b>Inhalation</b>	
<b>Gas</b>	No information available
<b>Mist</b>	No information available
<b>Vapor</b>	No information available

#### Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90,000 mg/kg ( Rat )		
Ammonium thiosulfate	> 2000 mg/kg ( Rat )		
Sodium bisulfite	1420 mg/kg ( Rat )		
Potassium acetate	3250 mg/kg ( Rat )		
Sodium borate	2403 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	
Aluminum sulfate	> 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

**Aggravated Medical Conditions** None known.

Subchronic toxicity  
no data available

Chronic toxicity  
**Chronic toxicity**  
**Sensitization**  
**Neurological effects**  
**Target Organ Effects**

Prolonged exposure may cause chronic effects.  
No information available.  
No information available.  
Eyes, Skin, Respiratory system.

CMR Effects

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** Contains a known or suspected reproductive toxin

## 12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated

**Acute aquatic toxicity Product Information**  
No information available

**Acute aquatic toxicity Component Information**

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sodium bisulfite		LC50= 240 mg/L Gambusia affinis 96 h	EC50 = 119 mg/L 48 h (Daphnia magna)
Potassium acetate		LC50= 6800 mg/L Oncorhynchus mykiss 96 h	EC50 = 7170 mg/L 24 h (Daphnia magna)

Sodium borate	158 mg/L EC50 96 h (Desmodesmus subspicatus) 2.6 - 21.8 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	LC50= 340 mg/L Limanda limanda 96 h	LC50 1085 - 1402 mg/L 48 h (Daphnia magna)
Aluminum sulfate		LC50= 100 mg/L Carassius auratus 96 h LC50= 37 mg/L Gambusia affinis 96 h	EC50 = 136 mg/L 15 min (Daphnia magna)

**Persistence and degradability**

Expected to be readily biodegradable

**Bioaccumulative potential**

No information available

**Mobility in soil**

No information available

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste from Residues / Unused  
Products**

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.

ADR/RID Not regulated

IMDG/IMO Not regulated

ICAO/IATA Not regulated

ADN Not regulated

DOT Not regulated

TDG Not regulated

For transportation information, go to: <http://ship.carestreamhealth.com>.

**15. REGULATORY INFORMATION**

International Inventories

**EINECS/ELINCS**

Complies

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<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	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

**National regulatory information**

**China** None known.

<b>16. OTHER INFORMATION</b>
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Revision Date 2013-03-13  
Revision Note Product name, (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

**End of Material Safety Data Sheet**