

**MATERIAL SAFETY DATA SHEET**

**Issuing date** no data available

**Revision Date** 2011-11-14

**Version** 5.030001

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

**1.1 Product identifier**

**Product code:** 5159082

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

**Pure substance/mixture** Mixture

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Sector of Use** Photographic chemical

**Uses advised against** No information available

**1.3 Details of the supplier of the safety data sheet**

**Supplier:** Carestream Health UK Ltd., 1 Park Lane, Hemel Hempstead, Hertfordshire, HP2 4YG

For further information, please contact:

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

**1.4 Emergency telephone number**

**Emergency telephone** +1(703)527-3887

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
France	+(33)-975181407
Germany	0800-181-7059
Italy	800-789-767
Netherlands	+(31)-858880596
Poland	+(48)-223988029
Spain	900-868538
Sweden	+(46)-852503403
United Kingdom	+(44)-870-8200418

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

Serious eye damage/eye irritation	Category 2A
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**Classification according to EU Directives 67/548/EEC or 1999/45/EC**  
For the full text of the R-phrases mentioned in this Section, see Section 16

The preparation is non-dangerous in accordance with Directive 1999/45/EC

**Symbol(s)**  
Not dangerous

## 2.2 Label Elements



**Signal Word**  
WARNING

**Hazard Statements**  
H319 - Causes serious eye irritation

### Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear eye protection/ face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

## 2.3 Other information

**General Hazards**  
No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Non-Hazardous

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	EU - GHS Substance Classification	REACH Registration Number
Ammonium thiosulfate	231-982-0	7783-18-8	35-45	-	no data available	no data available
Sodium bisulfite	231-548-0	7631-90-5	1-5	Xn; R22 R31	Acute Tox. 4 (H302) (EUH031)	no data available
Acetic acid	200-580-7	64-19-7	1-5	R10 C; R35	Skin Corr. 1A (H314) B Flam. Liq. 3 (H226) B STOT SE 3 (H335)	no data available
Aluminum sulfate	233-135-0	10043-01-3	1-5	Xi; R41	Eye Dam. 1 (H318)	no data available
Sodium borate	215-540-4	1330-43-4	1-5	Repr.Cat.2; R60-61	Repr. 1B (H360FD)	no data available

For the full text of the R-phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

<b>General advice</b>	If symptoms persist, call a physician Show this material safety data sheet to the doctor in attendance.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Skin contact</b>	Wash skin with soap and water If symptoms persist, call a physician
<b>Ingestion</b>	If swallowed, do not induce vomiting - seek medical advice
<b>Inhalation</b>	Move to fresh air If symptoms persist, call a physician

#### **4.2 Most important symptoms and effects, both acute and delayed**

**Main Symptoms** Causes serious eye irritation

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically

### **5. FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

##### **Suitable Extinguishing Media**

The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment Cool containers / tanks with water spray

##### **Extinguishing media which shall not be used for safety reasons**

None

#### **5.2 Special hazards arising from the substance or mixture**

##### **Special Hazard**

Not combustible. Thermal decomposition can lead to release of irritating gases and vapors

#### **5.3 Advice for fire-fighters**

##### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear

### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation Avoid contact with eyes

See Section 12 for additional information

#### **6.2 Environmental precautions**

Do not flush into surface water or sanitary sewer system

#### **6.3 Methods and material for containment and cleaning up**

Dam up Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Ensure adequate ventilation Avoid contact with eyes

### 7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place

### 7.3 Specific end uses

Specific use(s) None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure limits

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
Sodium bisulfite 7631-90-5		STEL 15 mg/m <sup>3</sup> TWA 5 mg/m <sup>3</sup>	VME 5 mg/m <sup>3</sup>	VLA-ED 5 mg/m <sup>3</sup>	
Acetic acid 64-19-7	TWA 10 ppm TWA 25 mg/m <sup>3</sup>		VLCT 10 ppm VLCT 25 mg/m <sup>3</sup>	VLA-ED 10 ppm VLA-ED 25 mg/m <sup>3</sup> VLA-EC 15 ppm VLA-EC 37 mg/m <sup>3</sup>	AGW 10 ppm AGW 25 mg/m <sup>3</sup>
Aluminum sulfate 10043-01-3		STEL 6 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup>	VME 2 mg/m <sup>3</sup>	VLA-ED 2 mg/m <sup>3</sup>	
Sodium borate 1330-43-4		STEL 3 mg/m <sup>3</sup> TWA 1 mg/m <sup>3</sup>	VME 1 mg/m <sup>3</sup> R2	VLA-ED 2 mg/m <sup>3</sup> VLA-EC 6 mg/m <sup>3</sup>	

Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
Sodium bisulfite 7631-90-5		TWA 5 mg/m <sup>3</sup> C(A4)			TWA 5 mg/m <sup>3</sup>
Acetic acid 64-19-7		TWA 10 ppm STEL 15 ppm		TWA 5 ppm TWA 13 mg/m <sup>3</sup> STEL 10 ppm STEL 25 mg/m <sup>3</sup>	TWA 10 ppm TWA 25 mg/m <sup>3</sup>
Aluminum sulfate 10043-01-3		TWA 2 mg/m <sup>3</sup>	TWA 0.05 mg/m <sup>3</sup>	TWA 1 mg/m <sup>3</sup>	TWA 1 mg/m <sup>3</sup>
Sodium borate 1330-43-4		TWA 2 mg/m <sup>3</sup> STEL 6 mg/m <sup>3</sup> C(A4)			TWA 1 mg/m <sup>3</sup>

Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Sodium bisulfite 7631-90-5		MAK 5 mg/m <sup>3</sup>		TWA 5 mg/m <sup>3</sup> STEL 10 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Acetic acid 64-19-7	STEL 20 ppm STEL 50 mg/m <sup>3</sup> MAK 10 ppm MAK 25 mg/m <sup>3</sup>	SS-C** MAK 10 ppm MAK 25 mg/m <sup>3</sup> STEL 20 ppm STEL 50 mg/m <sup>3</sup>	NDS 15 mg/m <sup>3</sup> NDSch 30 mg/m <sup>3</sup> R	TWA 10 ppm TWA 25 mg/m <sup>3</sup> STEL 20 ppm STEL 37.5 mg/m <sup>3</sup>	TWA 10 ppm TWA 25 mg/m <sup>3</sup> STEL 15 ppm STEL 37 mg/m <sup>3</sup>
Aluminum sulfate 10043-01-3		MAK 2 mg/m <sup>3</sup>		TWA 2 mg/m <sup>3</sup> STEL 4 mg/m <sup>3</sup>	TWA 2 mg/m <sup>3</sup>
Sodium borate 1330-43-4		MAK 1 mg/m <sup>3</sup>		TWA 1 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup>	TWA 1 mg/m <sup>3</sup>

**Biological occupational exposure limits**

No information available

**Derived No Effect Level** No information available  
**Predicted No Effect Concentration (PNEC)** No information available

**8.2 Exposure controls**

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

**Personal protective equipment**

**Eye Protection** Tightly fitting safety goggles  
**Hand Protection** The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).  
**Skin and body protection** Wear suitable protective clothing.  
**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

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

**Environmental Exposure Controls** Do not allow material to contaminate ground water system

**9. PHYSICAL AND CHEMICAL PROPERTIES**

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

<b>Physical state</b>	liquid	<b>Odor</b>	Slight, Ammoniacal
<b>Appearance</b>	aqueous solution	<b>Odor Threshold</b>	No information available
<b>Color</b>	light yellow		
<b>Property</b>	<b>Values</b>	<b>Remarks/ - Method</b>	
<b>ph</b>	4.9	No information available	
<b>Melting point/range:</b>		No information available	
<b>Freezing Point:</b>		No information available	
<b>Boiling point/boiling range</b>	100 °C	No information available	
<b>Flash Point</b>	> 94.200	No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Flammability Limits in Air</b>			
<b>upper flammability limit</b>			
<b>lower flammability limit</b>			

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<b>Vapor pressure</b>	24 hPa	@ 20 °C
<b>Vapor density</b>	0.6	No information available
<b>Relative density</b>	1.29	No information available
<b>Water Solubility</b>	completely soluble	No information available
<b>Solubility in other solvents</b>		No information available
<b>Partition coefficient: n-octanol/water</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>Viscosity:</b>		No information available
<b>Explosive properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>9.2 Other information</b>		
<b>VOC Content</b>	No information available	

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

### 10.2 Chemical stability

Stable under normal conditions

### 10.3 Possibility of hazardous reactions

None under normal processing

### 10.4 Conditions to Avoid

Do not freeze To avoid thermal decomposition, do not overheat

### 10.5 Incompatible Materials

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

### 10.6 Hazardous Decomposition Products

Carbon oxides Sulfur oxides Nitrogen oxides (NOx) Ammonia Fumes of aluminum or aluminum oxide

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### **Acute toxicity**

**Product Information** No acute toxicity information is available for this product

**Inhalation** May cause irritation of respiratory tract

**Eye contact** Causes serious eye irritation

**Skin contact** Mild skin irritation

**Ingestion** May be harmful if swallowed

### Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium thiosulfate	> 2000 mg/kg ( Rat )		
Sodium bisulfite	1420 mg/kg ( Rat )		
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h
Aluminum sulfate	> 5000 mg/kg ( Rat )		
Sodium borate	2403 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	

### Chronic toxicity

#### Carcinogenicity

Contains no ingredient listed as a carcinogen

#### Sensitization

No information available

#### Developmental Toxicity

The product contains no substances classified as hazardous to health in concentrations which should be taken into account according to EC directives. ( Boron below limit for consideration )

#### Target Organ Effects

None known.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Ecotoxicity effects

The environmental impact of this product has not been fully investigated

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sodium bisulfite		LC50= 240 mg/L <i>Gambusia affinis</i> 96 h	EC50 = 119 mg/L 48 h ( <i>Daphnia magna</i> )
Acetic acid		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> )
Aluminum sulfate		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> )
Sodium borate	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> )

### 12.2 Persistence and degradability

Readily biodegradable.

### 12.3 Bioaccumulative potential

No information available

Chemical Name	log Pow
Acetic acid	-0.31

#### **12.4 Mobility in soil**

No information available

#### **12.5 Results of PBT and vPvB assessment**

No information available

#### **12.6 Other adverse effects**

No information available

### **13. DISPOSAL CONSIDERATIONS**

#### **13.1 Waste treatment methods**

##### **Waste from Residues / Unused Products**

Dispose of in accordance with the European Directives on waste and hazardous waste

##### **Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal

##### **Other information**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used

### **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.

<b>IMDG/IMO</b>	Not regulated
<b>14.1. UN/ID No</b>	Not regulated
<b>14.2. Proper Shipping Name</b>	Not regulated
<b>14.3. Hazard class</b>	Not regulated
<b>14.4. Packing Group</b>	Not regulated
<b>14.5. Marine pollutant</b>	None
<b>14.6. Special Provisions</b>	None

<b>RID</b>	Not regulated
<b>14.1. UN/ID No</b>	Not regulated
<b>14.2. Proper Shipping Name</b>	Not regulated
<b>14.3. Hazard class</b>	Not regulated
<b>14.4. Packing Group</b>	Not regulated
<b>Description</b>	Not regulated
<b>14.5. Classification Code</b>	None
<b>14.6. Special Provisions</b>	None



<b>ADR/RID</b>	Not regulated
<b>14.1. UN/ID No</b>	Not regulated
<b>14.2. Proper Shipping Name</b>	Not regulated
<b>14.3. Hazard class</b>	Not regulated
<b>14.4. Packing Group</b>	Not regulated
<b>14.5. Classification Code</b>	None
<b>14.6. Special Provisions</b>	None

<b>ICAO</b>	Not regulated
<b>14.1. UN/ID No</b>	Not regulated
<b>14.2. Proper Shipping Name</b>	Not regulated
<b>14.3. Hazard class</b>	Not regulated
<b>14.4. Packing Group</b>	Not regulated
<b>14.5. Special Provisions</b>	None

<b>ICAO/IATA</b>	Not regulated
<b>14.1. UN/ID No</b>	Not regulated
<b>14.2. Proper Shipping Name</b>	Not regulated
<b>14.3. Hazard class</b>	Not regulated
<b>14.4. Packing Group</b>	Not regulated
<b>14.5. ERG Code</b>	None
<b>14.6. Special Provisions</b>	None

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

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

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances

### 15.2 Chemical Safety Assessment

No information available

## 16. OTHER INFORMATION

**Full text of R-phrases referred to under sections 2 and 3**

R31 - Contact with acids liberates toxic gas  
R22 - Harmful if swallowed  
R35 - Causes severe burns  
R10 - Flammable  
R61 - May cause harm to the unborn child

**Full text of H-Statements referred to under sections 2 and 3**

H226 - Flammable liquid and vapor  
H319 - Causes serious eye irritation  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H335 - May cause respiratory irritation  
H360FD - May damage fertility. May damage the unborn child

**Hazard Statements**

H319 - Causes serious eye irritation

**Revision Date** 2011-11-14

**Revision Note** not applicable.

**Disclaimer**

**The information provided on this SDS 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.**