

XL-Cal®
1. Identification
Product Name: XL-Cal®

Item #: XLG946, XLG438, XLC025, XLQ100, XLQ400

Synonyms: N/A

Recommended Use: Decalcification, Laboratory Reagent

Restrictions on Use: Any use other than recommended

Manufacturer:

 Cancer Diagnostics, Inc.
 116 Page Point Circle
 Durham, NC 27703
 1-877-846-5393

In Case of Emergency:

 Chemtrec US 1-800-424-9300
 Infotrac International 1-352-323-3500

2. Hazards Identification
OSHA Hazard Classification(s):

Acute Toxicity - Inhalation - Category 3

Skin Corrosion - Category 1A

Eye Damage - Category 1

Signal Word: Danger

Hazard Statement(s): Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage.

Pictogram(s):

Precautionary Statement(s): Prevention: Avoid breathing dust, vapors. Use only outdoors or in a well-ventilated area. Do not breathe dusts or mists. Wash body thoroughly after handling. Wear protective gloves, protective clothing, eye protection and face protection. Wear eye protection, face protection.

Response: If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor. Specific treatment (see first aid section on this label). If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off all contaminated clothing and wash it before reuse. Immediately call a doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A

Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

Chemical Name	Common Name	CAS #	Concentration %
Water		7732-18-5	Trade Secret
Formic Acid		64-18-6	Trade Secret
Hydrochloric Acid		7647-01-0	Trade Secret
Select buffers		Trade Secret	Trade Secret
Selected ethers		Trade Secret	Trade Secret

4. First Aid Measures
Eye Contact: 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.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water.

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If skin irritation occurs: Get medical advice/attention.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation of eyes, skin, nose, throat; skin burns, blisters, dermatitis; lacrimation; rhinorrhea; cough, dyspnea; nausea; eye redness, pain, burns, blurred vision; pulmonary edema; metabolic acidosis; unconsciousness, hemolysis, hematuria (blood in the urine); central nervous system depression, headache; vomiting bronchitis [potential occupational carcinogen] ; INGES. ACUTE: Burning sensation, sore throat, abdominal pain, cramps, vomiting, diarrhea

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell. Seek medical attention immediately for acute exposure.

5. Fire- Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam, water.

Fire Hazards (Chemical): Not flammable.

Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.

Precautions for Firefighters: Carbon monoxide and unidentified organic compounds may be formed during combustion.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

Protective Equipment: See section 8

Environmental Precautions: Prevent release to the environment by using barriers.

Containment and Clean-Up Procedures: Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Do not store in metal containers.

8. Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS #	OSHA PEL TWA
Formic Acid	64-18-6	5ppm
Hydrochloric Acid	7647-85-7	5ppm
Select buffer	Trade Secret	0.2 mg/m3
Select ether	Trade Secret	50 ppm (240 mg/m3) TWA Skin

ACGIH Threshold Limit Values (TLVs):

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL
Formic Acid	64-18-6	5 ppm, 9.4 mg/m3	10 ppm, 19 mg/m3
Hydrochloric Acid	7647-85-7	2 ppm (3 mg/m3) Ceiling3	
Select buffer	Trade Secret	0.2 mg/m3	
Select Ether	Trade Secret	20 ppm (97 mg/m3)	

Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.

Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.

Special PPE Requirements: If ventilation hood not available wear respirator.

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9. Physical and Chemical Properties Section

Appearance: Yellow, Liquid
Molecular Weight: N/A
Molecular Formula: N/A
pH: 1.08
Boiling Point and Boiling Range: N/A
Melting Point/Freezing Point: N/A
Flash Point: N/A
Specific Gravity/Relative Density: N/A
Odor: Pungent
Odor Threshold: N/A
Color: Yellow
Flammability (solid/gas): N/A
Vapor Density: N/A
Upper/Lower flammability or explosive limits: N/A
Vapor Pressure: N/A
Evaporation Rate: N/A
Partition Coefficient: n-octanol/water: N/A
Viscosity: N/A
Auto-ignition temperature: N/A
Solubility: N/A
Decomposition Temperature: N/A

10. Stability and Reactivity

Reactivity: N/A
Chemical Stability: Stable
Conditions of Stability/Instability: Stable under normal conditions of temperature and pressure
Stabilizers needed: None
Safety issue indicated by appearance change: N/A
Other: N/A
Hazardous Reactions: N/A
Hazardous Polymerization: Does not occur
Conditions to avoid: Exposure to heat, sources of ignition.
Classes of Incompatible Materials: Oxidizers, Strong Acids, Strong Bases
Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information

Likely Routes of Exposure

Eyes: Corrosive to eyes, may cause permanent corneal damage, redness and pain.
Skin: Corrosive to skin, may cause permanent damage, redness, pain and death.
Inhalation: Toxic by inhalation. May cause bronchitis, respiratory distress.
Ingestion: Poison to drink. Very corrosive. May cause burns to mouth, throat, stomach and gastrointestinal tract.

Signs or Symptoms of Exposure: Irritation of eyes, skin, nose, throat; skin burns, blisters, dermatitis; lacrimation; rhinorrhea; cough, dyspnea; nausea; eye redness, pain, burns, blurred vision; pulmonary edema; metabolic acidosis; unconsciousness, hemolysis, hematuria (blood in the urine); central nervous system depression, headache; vomiting bronchitis [potential occupational carcinogen]; INGES. ACUTE: Burning sensation, sore throat, abdominal pain, cramps, vomiting, diarrhea

Effects from short term exposure (delayed, immediate, chronic): Irritation to the eyes, nose, throat; headache,

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dizziness, nausea. Target Organs Eyes, skin, respiratory system, central nervous system, hematopoietic system, blood, kidneys, liver, lymphoid system

Acute Toxicity (Numerical Measures): Hydrochloric Acid: LD50(oral, rat)=900 mg/kg; LC50(inhalation, mouse)=1108 ppm/1H; LC50(inhalation, mouse)=3940 mg/m³/30M
Formic Acid: LD50(oral,mouse)=700 mg/kg; LC50(inhalation,mouse)=6200 mg/m³/15MLC50(inhalation, rat)=7400 mg/m³/4H

Carcinogenicity (NTP, IARC, OSHA): N/A

12. Ecological Information

Ecotoxicity: Hydrochloric Acid: Ecotoxicity: CAS 7647-01-0 Hydrochloric Acid Fish: LC50 (96 Hr) Mosquito Fish: 282 mg/L LC100(24Hr) Trout: 10 mg/L Invertebrates: LC50(48Hr) Starfish: 100-330 mg/L LC50 (48Hr) Shrimp: 100-330 mg/L
Formic Acid: Toxicity to fish: LC50-Leuciscus idus(Golden orfe)-46-100mg/l-96h Toxicity to daphnia and other aquatic invertebrates:EC50-Daphnia magna(Water flea)-34.2mg/l-48h Toxicity to bacteria-Pseudomonas putida-46.7mg/l-17h

Persistence and degradability: Formic Acid: iodegradability:Result:>90%-Readily biodegradable. Bioaccumulation is unlikely
Biochemical Oxygen Demand (BOD)=86mg/g Chemical Oxygen Demand (COD) 348mg/g

Bioaccumulation Potential (octanol-water partition coefficient, BCF): N/A

Mobility in the soil: N/A

Adverse Environmental Effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13. Disposal Considerations

Recommended Disposal Containers: Check with your local waste authorities*

Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*

Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*

Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*

Waste Stream: Consult your local or regional authorities.*

14. Transport Information

UN Number: UN3264

UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Formic Acid)

Transport Hazard Class(es): 8

Packing Group Number: III

Environmental Hazards (IMDG code):

Marine Pollutant: No

Transport in Bulk (IBC Code): N/A

Special Transport Precautions: N/A

15. Regulatory Information

OSHA: N/A

DOT: N/A

EPA: N/A

CPSC: N/A

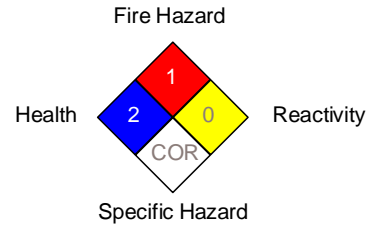
16. Other Information

Revision Date: 2019-01-11

NFPA

Health	2
Fire Hazard	1
Reactivity	0
Specific Hazard	COR

National Fire Protection Association (USA) NFPA



HMIS

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	

Hazardous Material Information System HMIS

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	

Notice to Reader:

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