



## Material Safety Data Sheet Titration solvent

### Section 1 - Chemical Product and Company Identification

**MSDS Name:**

Titration solvent

**Catalog Numbers:**

LC26140

**Synonyms:**

Isopropanol, 2-propanol, sec-propanol

**Company Identification:**

LabChem Inc

200 William Pitt Way

Pittsburgh, PA 15238

**Company Phone Number:**

(412) 826-5230

**Emergency Phone Number:**

(800) 424-9300

**CHEMTREC Phone Number:**

(800) 424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	0.5
67-63-0	Isopropyl alcohol	49.5
108-88-3	Toluene	50

### Section 3 - Hazards Identification

#### Emergency Overview

**Appearance:** Colorless

**Warning!** *Flammable liquid. May form explosive peroxides. May cause respiratory and digestive tract irritation. Causes eye irritation. May cause skin irritation. May cause central nervous system depression. May cause kidney damage. May cause respiratory and/or cardiac paralysis resulting in suffocation. Flash Point: < 73°F.*

**Target Organs:** Kidneys, central nervous system, blood, heart, liver.

#### Potential Health Effects

**Eye:**

Causes irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury.

**Skin:**

May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May cause irritation with pain and stinging, especially if the skin is abraded. Vapor may cause paresthias



## Material Safety Data Sheet Titration solvent

of the skin.

### **Ingestion:**

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause shallow, rapid respiration, ventricular irregularities. With fibrillation, convulsions, collapse, unconsciousness, coma and possible death due to respiratory failure. 15 – 30ml of toluene is the human lethal dose.

### **Inhalation:**

Inhalation of 200 – 600ppm causes upper respiratory tract irritation, fatigue, weakness, confusion, headache, nausea, and impaired coordination. \*00ppm causes rapid irritation of nasal and mucous membranes, metallic taste, and impaired balance. Extreme inhalation may cause death by paralysis of the respiratory center.

### **Chronic:**

Reproductive effects have been reported in animals. May cause dermatitis and conjunctivitis. Repeated exposure may cause mucous membrane irritation, vomiting, insomnia, nosebleeds, chest pain, euphoria, headache, palpitations, memory loss, and abnormal bleeding. Repeated inhalation may cause irreversible encephalopathy with cerebellar ataxia, unsteadiness, hallucinations, coma, and blood disorders.

## Section 4 - First Aid Measures

### **Eyes:**

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until chemical is gone. Get medical aid at once.

### **Skin:**

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

### **Ingestion:**

Extreme care must be taken to prevent aspiration. Gastric lavage with cuffed endotracheal tube in place to prevent aspiration should be done within 15 minutes. In the absence of depression or convulsions, emesis can be induced using syrup of ipecac without increasing hazard of aspiration.

### **Inhalation:**

Get medical aid at once. Move victim to fresh air immediately. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

### **Notes to Physician:**

Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

### **General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. This chemical poses an explosion hazard. Flammable Liquid. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. For massive fire in storage area, use unmanned hose holder or monitor nozzles. Evacuate to a radius of 2500 feet for uncontrollable fires. Cool containers with water well after fire is out. solid streams may spread fire.



## Material Safety Data Sheet Titration solvent

### Extinguishing Media:

Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

### Autoignition Temperature:

Not available.

### Flash Point:

< 73°F (< 22.78°C)

### NFPA Rating:

CAS# 7732-18-5: Not published.

CAS# 67-63-0 health-1; flammability-3; reactivity-0

CAS# 108-88-3 health-2, flammability-3, reactivity-0

### Explosion Limits:

Lower: No information      Upper: No information

## Section 6 - Accidental Release Measures

### General Information:

Use proper personal protective equipment as indicated in Section 8.

### Spills/Leaks:

Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Remove all sources of ignition.

## Section 7 - Handling and Storage

### Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

### Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Store in accordance with 29CFR 1910.106 bonding and grounding should be in accordance with NFPA77-1983.

## Section 8 - Exposure Controls, Personal Protection

### Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.



## Material Safety Data Sheet Titration solvent

### Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
Isopropyl alcohol	(400 ppm) TWA;(500ppm) STEL	400 ppm TWA; 980 mg/m <sup>3</sup> TWA	400 ppm TWA; 980 mg/m <sup>3</sup> TWA;
Toluene	50ppm TWA	100ppm TWA; 375 mg/m <sup>3</sup> TWA	200ppm TWA

### OSHA Vacated PELs:

Isopropyl alcohol: 400 ppm TWA; 980 mg/m<sup>3</sup> TWA

Toluene: 100ppm TWA; 375 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

#### Eyes:

Provide an eye-wash fountain in the immediate work area. Do not wear contact lenses when working with chemicals. Wear splash-proof safety goggles

#### Skin:

Wear gloves and apron made of nitrile or other toluene-resistant material.

#### Clothing:

Wear appropriate protective clothing to prevent skin exposure.

#### Respirators:

Provide local exhaust or process enclosure to meet Permissible Exposure Limits (PEL). For concentrations in the 100ppm range a respirator with organic vapor cartridges, supplied-air, or self-contained breathing apparatus may be used. For 2000ppm, a respirator operated in a continuous flow mode, self-contained breathing apparatus, or full facepiece with organic vapor canisters may be used. For heavy concentrations, a respirator with full facepiece with organic vapor canisters or escape-type self-contained breathing apparatus may be used.

## Section 9 - Physical and Chemical Properties

<b>Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Solvent odor
<b>pH:</b>	No information found.
<b>Vapor Pressure:</b>	No information found.
<b>Vapor Density:</b>	No information found.
<b>Evaporation Rate:</b>	No information found.
<b>Viscosity:</b>	No information found.
<b>Boiling Point:</b>	No information found.
<b>Freezing/Melting Point:</b>	No information found.
<b>Decomposition Temperature:</b>	No information found.
<b>Solubility in water:</b>	Slightly soluble.
<b>Specific Gravity/Density:</b>	0.82
<b>Molecular Formula:</b>	Not applicable.
<b>Molecular Weight:</b>	Not applicable.

## Section 10 - Stability and Reactivity

### Chemical Stability:



## Material Safety Data Sheet Titration solvent

Stable. This material may be sensitive to peroxide formation.

### Conditions to Avoid:

Incompatible materials, light, ignition sources.

### Incompatibilities with Other Materials:

This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable.

### Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, acrid smoke and fumes.

### Hazardous Polymerization:

Has not been reported.

## Section 11 - Toxicological Information

### RTECS:

CAS# 7732-18-5: ZC0110000.

CAS# 67-63-0: NT8050000.

CAS# 108-88-3: XS5250000.

### LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg.

CAS# 67-63-0:

Oral, mouse: LD50 = 3600 mg/kg

Oral, rabbit: LD50 = 6410 mg/kg

Oral, rat: LD50 = 5045 mg/kg

Skin, rabbit: LD50 = 12800 mg/kg.

CAS# 108-88-3:

Inhalation, Mouse: LC50=400ppm/24H

Inhalation, rat: LC50=49g/m<sup>3</sup>/4H

Oral, rat: LD50 = 636 mg/kg

Skin, rabbit: LD50 = 12124 mg/kg.

### Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 67-63-0:

ACGIH: Not listed.

California: Not listed.

NIOSH: Not listed.

NTP: Not listed.

OSHA: Not listed.

IARC: Group 3 (Not classifiable)

CAS# 108-88-3:

ACGIH: A4-Not classifiable as a human carcinogen.

California: Not listed.

NIOSH: Not listed.

NTP: Not listed.

OSHA: Not listed.

IARC: Group 3 (Not classifiable)



## Material Safety Data Sheet Titration solvent

**Epidemiology:**

Moderately toxic by inhalation, ingestion, slightly toxic by dermal absorption. Target effects: central nervous system depressant, neurotoxin. Poisoning may affect heart, liver kidneys, and blood.

**Teratogenicity:**

No information found.

**Reproductive:**

No information found.

**Mutagenicity:**

No information found.

**Neurotoxicity:**

No information found.

### Section 12 - Ecological Information

**Epidemiology:**

Acute aquatic effects: Fathead minnow: LC50=1000mg/L/96 Hr. Golden orfe: LC50=8970mg/L/48 Hr. Goldfish: LC50=5000mg/L/24 Hr.

**Environmental:**

This chemical has a low potential to affect aquatic organisms, secondary waste treatment microorganisms, and the germination and growth of some plants. It is readily biodegradable and is not expected to persist in an aquatic environment. It is not likely to bioconcentrate.

**Physical:**

None

**Other:**

None

### Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

### Section 14 - Transport Information

**US DOT**

**Shipping Name:** Flammable liquid, n.o.s.  
(Toluene, Isopropanol)

**Hazard Class:** 3

**UN Number:** UN1993

**Packing Group:** PG II

### Section 15 - Regulatory Information



## Material Safety Data Sheet Titration solvent

### US Federal

#### TSCA:

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 67-63-0 is listed on the TSCA Inventory.

CAS# 108-88-3 is listed on the TSCA Inventory.

#### SARA Reportable Quantities (RQ):

CAS# 108-88-3: final RQ=1000 pounds (454kg)

#### CERCLA/SARA Section 313:

This material contains Isopropyl alcohol (CAS# 67-63-0, 49.5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Toluene (CAS# 108-88-3, 50%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### OSHA - Highly Hazardous:

None of the components are on this list.

### US State

#### State Right to Know:

Isopropyl alcohol and toluene can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

#### California Regulations:

**Warning:** This product contains Toluene, a chemical known to the state of California to cause birth defects or other reproductive harm.

### European/International Regulations

#### Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 67-63-0 is listed on Canada's DSL List.

CAS# 108-88-3 is listed on Canada's DSL List.

#### Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.

CAS# 108-88-3 is listed on Canada's Ingredient Disclosure List.

## Section 16 - Other Information

MSDS Creation Date: November 29, 1998

Revision Date: July 31, 2007

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