

Material Safety Data Sheet
Bluing Reagent
Section 1 - Chemical Product and Company Identification
MSDS Name:

Bluing Reagent

Catalog Numbers:

6769001, 6769002

Synonyms:

None Known.

Company Identification:
 Thermo Fisher Scientific
 4481 Campus Drive
 Kalamazoo, MI 49008
Company Phone Number:

(800) 522-7270

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number, US:

(800) 424-9300

CHEMTREC Phone Number, Europe:

(202) 483-7616

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ ELINCS	Hazard Symbols	Risk Phrases
67-56-1	Methyl Alcohol	50 %	200-659-6	F T	11 23/24/25 39/23/24/25
554-13-2	Lithium Carbonate	<1 %	209-062-5		
144-55-8	Sodium Bicarbonate	<1 %	205-633-8		
7732-18-5	Water	Balance	231-791-2		

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Clear liquid

Danger! Poison! May be fatal or cause blindness if swallowed. Vapor harmful.

Causes respiratory tract irritation. Flammable liquid and vapor. Causes eye and skin irritation. May be absorbed through intact skin. May cause central nervous system depression. This substance has caused adverse reproductive and fetal effects in animals. May cause liver and kidney damage. May cause cardiac disturbances. Cannot be made non-poisonous. Flash Point: 27.8°C.

Target Organs: Kidneys, Heart, Central nervous system, Liver

Potential Health Effects

Eye:

Causes eye irritation. May cause painful sensitization to light.

Skin:

Causes skin irritation. May be absorbed through the skin.

Ingestion:

May be fatal or cause blindness if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. May cause cardiac disturbances. May cause central nervous system depression.

Inhalation:

Causes respiratory tract irritation. May cause effects similar to those described for ingestion.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

Section 4 - First Aid Measures

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin:

Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

Ethanol may inhibit methanol metabolism.

Section 5 - Fire Fighting Measures

General Information:

Ethanol may inhibit methanol metabolism. 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. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:

Not applicable.

Explosion Limits:

Lower: Not available Upper: Not available

Flash Point:

27.8°C (82.04°F)

NFPA Rating:

(estimated) Health: 2; Flammability: 3; Instability: 1

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use only in a chemical fume hood.

Storage:

Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Thermo
SCIENTIFIC
Material Safety Data Sheet
Bluing Reagent

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Methyl Alcohol	200 ppm TWA; 250 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m ³ TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA;
Lithium Carbonate	None listed	None listed	None listed
Sodium Bicarbonate	None listed	None listed	None listed
Water	None listed	None listed	None listed

OSHA Vacated PELs

Methyl Alcohol: 200 ppm TWA; 260 mg/m³ TWA

Personal Protective Equipment**Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: Clear

Odor: Alcoholic odor.

pH: No information found

Vapor Pressure: 96 mm Hg

Vapor Density: 1.11 (Air=1)

Evaporation Rate: 4.6 (Butyl acetate=1)

Viscosity: No information found

Boiling Point: 79°C

Freezing/Melting Point: No information found

Decomposition Temperature: No information found

Solubility in water: Soluble in water.

Specific Gravity/Density: 0.9 (Water=1)

Molecular Formula: Not applicable.

Molecular Weight: No information found

Section 10 - Stability and Reactivity

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

High temperatures, mechanical shock, incompatible materials, ignition sources

Incompatibilities with Other Materials

Methanol is incompatible with oxidants (such as barium perchlorate, bromine, chlorine, hydrogen peroxide, lead perchlorate, perchloric acid, sodium hypochlorite). Active metals (such as potassium and magnesium). Substance is also incompatible with specific chemicals including: acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, nitric acid, and potassium tertbutoxide. Please refer to the NFPA Fire Protection Guide for all specifics.

Hazardous Decomposition Products

Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, formaldehyde

Hazardous Polymerization

Has not been reported

Section 11 - Toxicological Information

RTECS:

CAS# 67-56-1: PC1400000
CAS# 554-13-2: OJ5800000
CAS# 144-55-8: VZ0950000
CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 67-56-1:
Draize test, rabbit, eye: 40 mg Moderate
Draize test, rabbit, eye: 100 mg/24H Moderate
Draize test, rabbit, skin: 20 mg/24H Moderate
Inhalation, rabbit: LC50 = 81000 mg/m³/14H
Inhalation, rat: LC50 = 64000 ppm/4H
Oral, mouse: LD50 = 7300 mg/kg
Oral, rabbit: LD50 = 14200 mg/kg
Oral, rat: LD50 = 5600 mg/kg
Skin, rabbit: LD50 = 15800 mg/kg.

CAS# 554-13-2:
Oral, mouse: LD50 = 531 mg/kg
Oral, mouse: LD50 = 531 mg/kg
Oral, rabbit: LD50 = 404 mg/kg
Oral, rat: LD50 = 525 mg/kg
Oral, rat: LD50 = 553 mg/kg.

CAS# 144-55-8:
Draize test, rabbit, eye: 100 mg/30S Mild
Oral, mouse: LD50 = 3360 mg/kg
Oral, rat: LD50 = 4220 mg/kg.

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

CAS# 67-56-1: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 554-13-2: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 144-55-8: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

No information available.

Teratogenicity:

Methanol effects on Newborn: behavioral, orl-rat TDLo=7500 mg/kg. Embryo or Fetus: fetotoxicity, TCLo=10000 ppm/7H Specific Developmental Abnormalities:cardiovascular, musculoskeletal, urogenital, TCLo=20000 ppm/7H.

Reproductive:

Methanol Paternal Effects:spermatogenesis,ipr-mouseTDLo=5 g/kg.

Mutagenicity:

Methanol DNA Damage: orl-rat 10 umol/kg.
Methanol DNA Inhibition: human lymphocyte 300 mmol/L. Microbial Mutation w/o S9: S. cerevisiae 12 pph.

Neurotoxicity:

No information available.

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:

Fish: Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees C
Fish: Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63
Fish: Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; Unspecified
Bacteria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test

Environmental:

Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 96>1000 ppm. May be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.

Physical:

No information found.

Other:

No information found

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

CAS# 67-56-1: waste number U154 (Ignitable waste).

Section 14 - Transport Information

US DOT

Canadian TDG

Proper Shipping Name: ALCOHOLS,
N.O.S. (Contains
Methanol)

Hazard Class: 3

UN Number: UN1987

Packing Group: III

ALCOHOLS,
N.O.S. (Contains
Methanol)

3

UN1987

III

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 67-56-1 is listed on the TSCA Inventory.

CAS# 554-13-2 is listed on the TSCA Inventory.

CAS# 144-55-8 is listed on the TSCA Inventory.

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

Health and Safety Reporting List

None of the components are on this list.

Chemical Test Rules

None of the components are on this list.

TSCA Section 12b

None of the components are on this list.

TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

CERCLA Hazardous Substances and corresponding RQs

CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the components are on this list.

SARA Hazard Categories

CAS# 67-56-1: immediate, fire.

CAS# 554-13-2: delayed.

SARA Section 313

This material contains Methyl Alcohol (CAS# 67-56-1, 50%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Lithium Carbonate is not at a high enough concentration to be reportable under Section 313.

Clean Air Act - Hazardous Air Pollutants (HAPs)

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).

Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

Clean Water Act - Hazardous Substances

None of the components are on this list.

Clean Water Act - Priority Pollutants

None of the components are on this list.

Clean Water Act - Toxic Pollutants

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

OSHA - Specifically Regulated Chemicals

None of the components are on this list.

US State**State Right to Know**

Methyl Alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

Lithium Carbonate can be found on the following state Right-to-Know lists: New Jersey, Massachusetts.

No information found

California Prop 65

WARNING: This product contains Lithium Carbonate, a chemical known to the state of California to cause developmental reproductive toxicity.

California No Significant Risk Level

None of the components are on this list.

None of the components are on this list.

None of the components are on this list.

None of the components are on this list.

European/International Regulations**European Labelling in Accordance with EC Directives:**

Hazard Symbols: T

Risk Phrases: R 10 Flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

Thermo
S C I E N T I F I C
Material Safety Data Sheet
Bluing Reagent

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases: S 1/2 Keep locked up and out of reach of children.

S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

No information found

United Kingdom Occupational Exposure Limits

No information found

United Kingdom Maximum Exposure Limits

No information found

Canadian DSL/NDSL

CAS# 67-56-1 is listed on Canada's DSL List.

CAS# 554-13-2 is listed on Canada's DSL List.

CAS# 144-55-8 is listed on Canada's DSL List.

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

Canadian WHMIS Classifications

This product has a WHMIS classification of B2, D1B, D2B, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 67-56-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

Color information has been

MSDS Creation Date: July 23, 1999

Revision Date: November 13, 2007

Revisions were made in Sections:

14

This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.