



Material Safety Data Sheet

EZ-RUN Protein Markers and Ladders

MSDS# 93341

Section 1 - Chemical Product and Company Identification

MSDS Name: EZ-RUN Protein Markers and Ladders

Catalog Numbers: BP3600-1, BP3600-25, BP3600-500, BP3601-1, BP3601-25, BP3601-500, BP3602-1, BP3602-25, BP3602-500, BP3603-1, BP3603-25, BP3603-500

Synonyms: None Known.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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Risk Phrases:

CAS#: 56-81-5  
Chemical Name: Glycerol  
%: <51  
EINECS#: 200-289-5  
Hazard Symbols:

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Risk Phrases:

CAS#: 77-86-1  
Chemical Name: Tris (hydroxymethyl) aminomethane  
%: 1-3  
EINECS#: 201-064-4  
Hazard Symbols:

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Risk Phrases:

CAS#: 151-21-3  
Chemical Name: Sodium lauryl sulfate  
%: 2.0  
EINECS#: 205-788-1  
Hazard Symbols:

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Risk Phrases:

CAS#: 3483-12-3  
Chemical Name: Dithiothreitol  
%: <0.76  
EINECS#: 222-468-7  
Hazard Symbols:

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Risk Phrases:

CAS#: 6381-92-6  
Chemical Name: Ethylenediaminetetraacetate, disodium, dihydrate  
%: <0.05  
EINECS#: unlisted  
Hazard Symbols:

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Risk Phrases: 34 37

CAS#: 7647-01-0  
Chemical Name: Hydrogen chloride  
%: <1.0  
EINECS#: 231-595-7  
Hazard Symbols: C

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Risk Phrases:

CAS#: 7647-14-5  
Chemical Name: Sodium chloride  
%: <0.177  
EINECS#: 231-598-3  
Hazard Symbols:

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Risk Phrases:

CAS#: 7664-38-2  
Chemical Name: Phosphoric acid  
%: <1.4  
EINECS#: 231-633-2  
Hazard Symbols: C

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Risk Phrases:

CAS#: 26628-22-8  
Chemical Name: Sodium azide  
%: <0.02  
EINECS#: 247-852-1  
Hazard Symbols:

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Risk Phrases:

CAS#: 62625-28-9  
Chemical Name: Bromophenol blue  
%: 0.01  
EINECS#: 263-653-2  
Hazard Symbols:

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Hazard Symbols: XN



Risk Phrases: 22 36/37/38

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Warning! Irritant. Harmful if swallowed. May cause allergic respiratory and skin reaction. Causes eye, skin, and respiratory tract irritation. Target Organs: Respiratory system, eyes, skin.

#### Potential Health Effects

- Eye: Causes eye irritation. May cause chemical conjunctivitis.  
Skin: Causes mild skin irritation. Allergic reactions have been reported.  
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.  
Inhalation: Causes respiratory tract irritation. May cause allergic respiratory reaction.  
Chronic: No information found.

### 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.  
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.  
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.  
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.  
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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.  
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.  
Autoignition Temperature: Not available  
Flash Point: Not available  
Explosion Limits: Lower: Not available  
Explosion Limits: Upper: Not available  
NFPA Rating: health: 2; flammability: 0; instability: 0;

### 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

### Section 7 - Handling and Storage

- Handling: Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store at -20°C.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Glycerol	10 mg/m3 (mist)	none listed	15 mg/m3 TWA (total); 5 mg/m3 TWA (respirable fraction)
Tris (hydroxymethyl) aminomethane	none listed	none listed	none listed
Sodium lauryl sulfate	none listed	none listed	none listed
Dithiothreitol	none listed	none listed	none listed
Ethylenediaminetetraacetate, disodium, dihydrate	none listed	none listed	none listed
Hydrogen chloride	2 ppm Ceiling	50 ppm IDLH	5 ppm Ceiling; 7 mg/m3 Ceiling
Sodium chloride	none listed	none listed	none listed
Phosphoric acid	1 mg/m3; 3 mg/m3 STEL	1 mg/m3 TWA 1000 mg/m3 IDLH	1 mg/m3 TWA
Sodium azide	0.29 mg/m3 Ceiling (as NaN3); 0.11 ppm Ceiling (vapor, as hydrazoic acid)	none listed	none listed
Bromophenol blue	none listed	none listed	none listed

OSHA Vacated PELs: Glycerol: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction) Tris (hydroxymethyl) aminomethane: None listed Sodium lauryl sulfate: None listed Dithiothreitol: None listed Ethylenediaminetetraacetate, disodium, dihydrate: None listed Hydrogen chloride: None listed Sodium chloride: None listed Phosphoric acid: 1 mg/m3 TWA Sodium azide: None listed Bromophenol blue: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

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: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: blue

Odor: odorless

pH: 7.5-8.0

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility in water: Not available

Specific Gravity/Density:

Molecular Formula: Solution

Molecular Weight: 0

#### Section 10 - Stability and Reactivity

Chemical Stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:	Excess heat.
Incompatibilities with Other Materials	Strong oxidizing agents.
Hazardous Decomposition Products	No data available.
Hazardous Polymerization	Has not been reported.

#### Section 11 - Toxicological Information

RTECS#:  
CAS# 56-81-5: MA8050000  
CAS# 77-86-1: TY2900000  
CAS# 151-21-3: WT1050000  
CAS# 3483-12-3: EK1610000  
CAS# 6381-92-6: AH4410000  
CAS# 7647-01-0: MW4025000 MW4031000  
CAS# 7647-14-5: VZ4725000  
CAS# 7664-38-2: TB6300000  
CAS# 26628-22-8: VY8050000  
CAS# 62625-28-9: None listed

RTECS:

**CAS# 56-81-5:** Draize test, rabbit, eye: 126 mg Mild;  
Draize test, rabbit, eye: 500 mg/24H Mild;  
Draize test, rabbit, skin: 500 mg/24H Mild;  
Inhalation, rat: LC50 = >570 mg/m<sup>3</sup>/1H;  
Oral, mouse: LD50 = 4090 mg/kg;  
Oral, rabbit: LD50 = 27 gm/kg;  
Oral, rat: LD50 = 12600 mg/kg;  
Skin, rabbit: LD50 = >10 gm/kg;

RTECS:

**CAS# 77-86-1:** Oral, rat: LD50 = 5900 mg/kg;

RTECS:

**CAS# 151-21-3:** Draize test, rabbit, eye: 100 mg/24H Moderate;  
Draize test, rabbit, eye: 250 ug Mild;  
Draize test, rabbit, eye: 2 mg;  
Draize test, rabbit, eye: 10 mg Moderate;  
Draize test, rabbit, skin: 50 mg/24H Severe;  
Draize test, rabbit, skin: 25 mg/24H Moderate;  
Draize test, rabbit, skin: 250 mg/24H Moderate;  
Draize test, rabbit, skin: 10 mg/24H;  
Draize test, rabbit, skin: 50 mg/24H Mild;  
Inhalation, rat: LC50 = >3900 mg/m<sup>3</sup>/1H;  
Oral, rat: LD50 = 1288 mg/kg;

RTECS:

**CAS# 3483-12-3:**

RTECS:

**CAS# 6381-92-6:**

RTECS:

**CAS# 7647-01-0:** Inhalation, mouse: LC50 = 1108 ppm/1H;

Inhalation, mouse: LC50 = 20487 mg/m<sup>3</sup>/5M;

Inhalation, mouse: LC50 = 3940 mg/m<sup>3</sup>/30M;

Inhalation, mouse: LC50 = 8300 mg/m<sup>3</sup>/30M;

Inhalation, rat: LC50 = 3124 ppm/1H;

Inhalation, rat: LC50 = 60938 mg/m<sup>3</sup>/5M;

LD50/LC50:

Inhalation, rat: LC50 = 7004 mg/m<sup>3</sup>/30M;

Inhalation, rat: LC50 = 45000 mg/m<sup>3</sup>/5M;

Inhalation, rat: LC50 = 8300 mg/m<sup>3</sup>/30M;

Oral, rabbit: LD50 = 900 mg/kg;

RTECS:

**CAS# 7647-14-5:** Draize test, rabbit, eye: 100 mg Mild;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, eye: 10 mg Moderate;

Draize test, rabbit, skin: 50 mg/24H Mild;

Draize test, rabbit, skin: 500 mg/24H Mild;

Inhalation, rat: LC50 = >42 gm/m<sup>3</sup>/1H;

Oral, mouse: LD50 = 4 gm/kg;

Oral, rat: LD50 = 3000 mg/kg;

Skin, rabbit: LD50 = >10 gm/kg;

RTECS:

**CAS# 7664-38-2:** Draize test, rabbit, eye: 119 mg Severe;

Draize test, rabbit, skin: 595 mg/24H Severe;

Inhalation, mouse: LC50 = 25.5 mg/m<sup>3</sup>;

Inhalation, rat: LC50 = >850 mg/m<sup>3</sup>/1H;

Inhalation, rat: LC50 = 25.5 mg/m<sup>3</sup>;

Oral, mouse: LD50 = 1.25 gm/kg;

Oral, rat: LD50 = 1530 mg/kg;

Oral, rat: LD50 = 1.25 gm/kg;

Skin, rabbit: LD50 = 2740 mg/kg;

RTECS:

**CAS# 26628-22-8:** Inhalation, mouse: LC50 = 32400 ug/m<sup>3</sup>;

Inhalation, rat: LC50 = 37 mg/m<sup>3</sup>;

Oral, mouse: LD50 = 27 mg/kg;

Oral, rat: LD50 = 27 mg/kg;

Skin, rabbit: LD50 = 20 mg/kg;

Skin, rat: LD50 = 50 mg/kg;

RTECS:

**CAS# 62625-28-9:**

Glycerol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Tris (hydroxymethyl) aminomethane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Sodium lauryl sulfate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Dithiothreitol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity: Ethylenediaminetetraacetate, disodium, dihydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Hydrogen chloride - IARC: Group 3 (not classifiable)

Sodium chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Phosphoric acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Sodium azide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Bromophenol blue - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing Group:

Canada TDG

Shipping Name: Not regulated as a hazardous material

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 7647-01-0: 5000 lb final RQ; 2270 kg final RQ

USA RQ: CAS# 7664-38-2: 5000 lb final RQ; 2270 kg final RQ

USA RQ: CAS# 26628-22-8: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 56-81-5: 0

CAS# 77-86-1: 1

CAS# 151-21-3: 2

CAS# 3483-12-3: Not available

CAS# 6381-92-6: 2

CAS# 7647-01-0: 1

CAS# 7647-14-5: 0

CAS# 7664-38-2: 1

CAS# 26628-22-8: 2

CAS# 62625-28-9: Not available

Canada

CAS# 56-81-5 is listed on Canada's DSL List

CAS# 77-86-1 is listed on Canada's DSL List

CAS# 151-21-3 is listed on Canada's DSL List

CAS# 3483-12-3 is listed on Canada's DSL List

CAS# 6381-92-6 is listed on Canada's DSL List

CAS# 7647-01-0 is listed on Canada's DSL List

CAS# 7647-14-5 is listed on Canada's DSL List

CAS# 7664-38-2 is listed on Canada's DSL List

CAS# 26628-22-8 is listed on Canada's DSL List

CAS# 62625-28-9 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2B, D1B

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.

CAS# 56-81-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 77-86-1 is not listed on Canada's Ingredient Disclosure List.

CAS# 151-21-3 is listed on Canada's Ingredient Disclosure List

CAS# 3483-12-3 is not listed on Canada's Ingredient Disclosure List.

CAS# 6381-92-6 is not listed on Canada's Ingredient Disclosure List.

CAS# 7647-01-0 is listed on Canada's Ingredient Disclosure List

CAS# 7647-14-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7664-38-2 is listed on Canada's Ingredient Disclosure List

CAS# 26628-22-8 is listed on Canada's Ingredient Disclosure List

CAS# 62625-28-9 is not listed on Canada's Ingredient Disclosure List.

## US Federal

### TSCA

CAS# 56-81-5 is listed on the TSCA Inventory.

CAS# 77-86-1 is listed on the TSCA Inventory.

CAS# 151-21-3 is listed on the TSCA Inventory.

CAS# 3483-12-3 is listed on the TSCA Inventory.

CAS# 6381-92-6 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

CAS# 7647-01-0 is listed on the TSCA Inventory.

CAS# 7647-14-5 is listed on the TSCA Inventory.

CAS# 7664-38-2 is listed on the TSCA Inventory.

CAS# 26628-22-8 is listed on the TSCA Inventory.

CAS# 62625-28-9 is listed on the TSCA Inventory.

### Section 16 - Other Information

MSDS Creation Date: 11/02/2004

Revision #3 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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