

MSDS Number: **I7300** \* \* \* \* \* *Effective Date: 01/16/06* \* \* \* \* \* *Supersedes: 08/23/04*



**Material Safety Data Sheet**

**From:** Mallinckrodt Baker, Inc.  
222 Red School Lane  
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. and Canada  
Chemtec: 703-527-3887

**NOTE:** CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# IPTG (Isopropyl-beta-D-thiogalactopyranoside)

## 1. Product Identification

**Synonyms:** IPTG (Isopropyl-beta-D-thiogalactopyranoside) GenAR; beta-D-Galactopyranoside, 1-methylethyl 1-thio-; isopropyl beta-D-thiogalactoside

**CAS No.:** 367-93-1

**Molecular Weight:** 238.3

**Chemical Formula:** C<sub>9</sub>H<sub>18</sub>O<sub>5</sub>S

**Product Codes:** V263

## 2. Composition/Information on Ingredients

| Ingredient   | CAS No   | Percent |
|--|----------|---------|
| Hazardous  |          |         |
| -----  | -----    | -----   |
| -----  |          |         |
| IPTG (Isopropyl-beta-D-<br>Yes<br>Thiogalactopyranoside) | 367-93-1 | 100%    |

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### 3. Hazards Identification

#### Emergency Overview

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**WARNING! TOXICOLOGICAL PROPERTIES UNKNOWN. MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

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Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 2 - Moderate (Life)

Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES

Storage Color Code: Green (General Storage)

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#### Potential Health Effects

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Information on the human health effects from exposure to this substance is limited.

#### **Inhalation:**

No information found, but compound should be handled as a potential health hazard. May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

#### **Ingestion:**

No information found, but compound should be handled as a potential health hazard. May cause irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

#### **Skin Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

#### **Eye Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

#### **Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

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

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent

scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

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## 7. Handling and Storage

Freeze. Store at -15C to -21C. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

White crystalline powder.

**Odor:**

Odorless.

**Solubility:**

No information found.

**Specific Gravity:**

No information found.

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

No information found.

**Boiling Point:**

No information found.

**Melting Point:**

120 - 122C (248 - 252F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Burning may produce carbon monoxide, carbon dioxide, sulfur oxides, and nitrogen oxides.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong oxidizers.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

| -----\Cancer Lists\-----   |                      |             |      |
|--|----------------------|-------------|------|
| Ingredient<br>Category   | ---NTP Carcinogen--- |             | IARC |
|  | Known                | Anticipated |      |
| -----  |                      |             |      |
| IPTG (Isopropyl-beta-D-<br>None<br>Thiogalactopyranoside) (367-93-1) | No                   | No          |      |

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

| -----\Chemical Inventory Status - Part 1\-----          |       |     |       |     |
|---|-------|-----|-------|-----|
| Ingredient<br>Australia                                 | TSCA  | EC  | Japan |     |
|   | ----- | --- | ----- | --- |
| -----   |       |     |       |     |
| IPTG (Isopropyl-beta-D-<br>No<br>Thiogalactopyranoside) | Yes   | Yes | No    |     |

(367-93-1)

-----\Chemical Inventory Status - Part 2\-----  
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| Ingredient<br>Phil.  | Korea | --Canada-- |       |
|--|-------|------------|-------|
|  |       | DSL        | NDSL  |
| -----  | ----- | -----      | ----- |
| IPTG (Isopropyl-beta-D- Thiogalactopyranoside)<br>No<br>(367-93-1) | Yes   | Yes        | No    |

-----\Federal, State & International Regulations - Part 1\-----  
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| Ingredient<br>Chemical Catg.                                    | -SARA 302- |       | -----SARA |
|---|------------|-------|-----------|
|   | RQ         | TPQ   | List      |
| -----   | -----      | ----- | -----     |
| IPTG (Isopropyl-beta-D- Thiogalactopyranoside) (367-93-1)<br>No | No         | No    | No        |

-----\Federal, State & International Regulations - Part 2\-----  
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| Ingredient   | -RCRA- |        | -     |
|--|--------|--------|-------|
|  | CERCLA | 261.33 | 8 (d) |
| -----  | -----  | -----  | ----- |
| IPTG (Isopropyl-beta-D- Thiogalactopyranoside) (367-93-1)<br>- | No     | No     | No    |

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
 SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
 Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** None allocated.  
**Poison Schedule:** None allocated.  
**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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## 16. Other Information

**NFPA Ratings:** Health: **1** Flammability: **1** Reactivity: **0**

**Label Hazard Warning:**

WARNING! TOXICOLOGICAL PROPERTIES UNKNOWN. MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3.

**Disclaimer:**

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