

BIO-37036

IPTG
Safety Data Sheet



A Meridian Life Science® Company



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IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 12/4/2016 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Trade name	: IPTG Powder
Chemical name	: Isopropyl-β-D-thiogalactopyranoside
EC No.	: 206-703-0
CAS No	: 367-93-1
Formula	: C ₉ H ₁₈ O ₅ S
Synonyms	: Isopropyl β-D-thiogalactoside; IPTG

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial use Professional use
Use of the substance/mixture	: Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Bioline (Aust) Pty Ltd
Suite 111, National Innovation Centre Building
Australian Technology Park, Eveleigh, NSW 2015
Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number	: +61 2 8014 4558 (Australia) (24 hours, 7 days)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302

Acute Tox. 4 (Dermal) H312

Acute Tox. 4 (Inhalation) H332

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display

Hazard pictograms (CLP) :



GHS07

Signal word (CLP)	: Warning
Hazard statements (CLP)	: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
Precautionary statements (CLP)	: P261 - Avoid breathing dust P264 - Wash hands thoroughly after handling

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective gloves, protective clothing
P312 - Call a doctor if you feel unwell
P501 - Dispose of contents/container to an authorised waste collection point

2.3. Other hazards

Other hazards not contributing to the classification : Dust in eyes may cause mechanical irritation. Dust from this product may cause irritation to the respiratory tract.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Isopropyl- β -D-thiogalactopyranoside
CAS No : 367-93-1
EC No. : 206-703-0

Name	Product identifier	%
Isopropyl- β -D-thiogalactopyranoside	(CAS No) 367-93-1 (EC No.) 206-703-0	100
1,4-dioxane (Impurity)	(CAS No) 123-91-1 (EC No.) 204-661-8 (EC index No.) 603-024-00-5	< 0.1

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove to fresh air, keep the patient warm and at rest. If symptoms persist, obtain medical attention.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Harmful if inhaled. Dust from this product may cause respiratory irritation.

Symptoms/injuries after skin contact : Harmful in contact with skin.

Symptoms/injuries after eye contact : Dust in eyes may cause mechanical irritation.

Symptoms/injuries after ingestion : Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Alcohol-resistant foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide. Sulphur oxides.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.

Protection during firefighting : As in any fire, wear self-contained breathing apparatus and full protective gear.

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Avoid breathing dust. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and gloves.

Emergency procedures : Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust. Avoid contact with eyes, skin and clothing.

6.2. Environmental precautions

Notify authorities if large amounts of the product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Minimise generation of dust. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide appropriate exhaust ventilation at places where dust is formed. Use only outdoors or in a well-ventilated area. Avoid dust formation. Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use. Protect from moisture.

Incompatible materials : Strong oxidizing agents. Moisture.

Storage temperature : 2 - 8 °C

7.3. Specific end use(s)

Laboratory use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,4-dioxane (123-91-1)		
EU	Local name	1,4 Dioxane
EU	IOELV TWA (mg/m ³)	73 mg/m ³
EU	IOELV TWA (ppm)	20 ppm
United Kingdom	Local name	1,4-Dioxane
United Kingdom	WEL TWA (mg/m ³)	73 mg/m ³
United Kingdom	WEL TWA (ppm)	20 ppm
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Australia	Local name	1,4-Dioxane
Australia	TWA (mg/m ³)	36 mg/m ³
Australia	TWA (ppm)	10 ppm

8.2. Exposure controls

Appropriate engineering controls:

Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Wear protective gloves. Standard EN 374 - Protective gloves against chemicals. Nitrile rubber. Material thickness: 0.11 mm. Breakthrough time : 480 minutes. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough

Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection

Skin and body protection:

Long sleeved protective clothing

Respiratory protection:

Not required for normal conditions of use. In case of insufficient ventilation and possible dust formation, wear suitable respiratory equipment. Half mask with a particle filter P1 (EN 143)

Thermal hazard protection:

Not required for normal conditions of use.

Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 238.3 g/mol
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 105 °C
Freezing point	: No data available
Boiling point	: Not applicable.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Extremely high or low temperatures.

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

10.5. Incompatible materials

Strong oxidizing agents. Moisture.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

1,4-dioxane (123-91-1)

LD50 oral rat	≈ 5150 mg/kg
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Dust in eyes may cause mechanical irritation. Harmful in contact with skin. Harmful if inhaled. Dust from this product may cause respiratory irritation. Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Not classified.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

IPTG Powder (367-93-1)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not regulated
UN-No. (IMDG)	: Not regulated
UN-No. (IATA)	: Not regulated
UN-No. (ADN)	: Not regulated
UN-No. (RID)	: Not regulated

14.2. UN proper shipping name

Proper Shipping Name	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated
Proper Shipping Name (ADN)	: Not regulated
Proper Shipping Name (RID)	: Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not regulated
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IMDG

Transport hazard class(es) (IMDG)	: Not regulated
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IATA

Transport hazard class(es) (IATA)	: Not regulated
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ADN

Transport hazard class(es) (ADN)	: Not regulated
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RID

Transport hazard class(es) (RID)	: Not regulated
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14.4. Packing group

Packing group	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Authorisations and/or restrictions on use (Annex XVII):

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	1,4-dioxane
3(a) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	1,4-dioxane
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	1,4-dioxane
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	1,4-dioxane

IPTG Powder is not on the REACH Candidate List

IPTG Powder is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	O/W (Oil-in-Water (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, Bioaccumulative and Toxic)
	PMcc (Pensky-Martens Closed Cup test)
	PNEC (Predicted No Effect Concentration)
	REACH (Registration, Evaluation and Authorisation of CHemicals)
	RID (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very Persistent and very Bioaccumulative)

IPTG Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer

NCEC SDS EU BlackandWhite

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product