

SECTION 1 – IDENTIFICATION

Product Identifier: IPTG
Biotechnology Grade

Catalogue Number: 1010

Other means of identification: Isopropyl-beta-D-thiogalactoside

Recommended use of the chemical and restrictions on use:
Commonly used in cloning procedures that requires induction of β -galactosidase activity. For R&D use only. Not for pharmaceutical, household or other uses.

Supplier Information:

Axil Scientific Pte Ltd
2 Tukang Innovation Grove
#06-01, JTC MedTech Hub
Singapore 618305

Tel: +65 6775 7318
Email: custcare@axilscientific.com

Apical Scientific Sdn Bhd
No 7-1 to 7-4 Jalan SP 2/7
Taman Serdang Perdana, Seksyen 2
Seri Kembangan 43300
Selangor Darul Ehsan, Malaysia
Tel: +603 8943 3252
Email: custcare@apicalscientific.com

Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.
+65 6775 7318 (Singapore)
+603 8943 3252 (Malaysia)

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Other Hazards - None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identity: IPTG
Synonyms: Isopropyl-beta-D-thiogalactoside
Molecular Formula: C₉H₁₈O₅S
Molecular Weight: 238.30 g/mol

Component	Classification	Concentration
1,4-Dioxane		
CAS-No. 123-91-1 EC-No. 204-661-8 Index-No. 603-024-00-5	Flam. Liq. 2; Eye Irrit. 2; Carc. 2; STOT SE 3	≤ 0.1 %

SECTION 4 – FIRST-AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush eyes with copious amounts of water for at least 15 minutes. If symptoms develop or persist, get medical attention.

Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Remove contaminated clothing and shoes. If symptoms develop or persist, get medical attention. Wash clothing and shoes before reuse, or discard in a manner which limits further exposure.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention.

Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Indication of any immediate medical attention and special treatment needed

Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing Media

Use water spray, dry chemical powder, carbon dioxide or alcohol-resistant foam.

Specific hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions - Carbon oxides, Sulphur oxides

Special Fire-fighting Procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions

Minimize entry of material into sewers and drainage systems.

Methods and materials for containment and cleaning up

Clean up spills immediately, observing precautions in the safety data sheet and label. Minimize dust generation. Dispose into a chemical waste container.

SECTION 7 – HANDLING AND STORAGE

Handling

Use with adequate ventilation as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Follow all SDS/ label precautions. Avoid contact with skin and eyes. Avoid raising dust.

Storage

Store in tightly closed container in a cool, well ventilated area, protected from light, desiccated at -20°C.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational exposure limits

Component	CAS No.	Value	Control parameters	Basis
1,4-Dioxane	123-91-1	PEL (long-term)	25ppm 90 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body protection

Impervious clothing, Type of protective equipment must be selected based on the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Consult with respirator manufacturer to determine respirator selection, use, and limitations.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	Appearance	White solid
b)	Odour	Slight odour
c)	Odour Threshold	Not available
d)	pH	5 – 7 (5% aqueous solution)
e)	Melting/freezing point	110 – 114 °C
f)	Initial boiling point and boiling range	Not available
g)	Flash point	Not available
h)	Evaporation rate	Not available
i)	Flammability (solid, gas)	Not available
j)	Upper/lower flammability or explosive limits	Not available
k)	Vapour pressure (mm Hg)	Not available
l)	Vapour density	Not available
m)	Relative density	Not available
n)	Solubility(ies)	0.05 g/L (water)
o)	Partition coefficient: n-octanol/water	Not available
p)	Autoignition temperature	Not available
q)	Decomposition temperature	Not available
r)	Viscosity	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity

Data not available.

Chemical stability:

Stable.

Possibility of hazardous reactions

Data not available.

Conditions to avoid

Exposure to moisture.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: toxic fumes of carbon oxides and sulfur oxides.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

Data not available.

Skin corrosion/irritation

Data not available.

Serious eye damage/eye irritation

Data not available.

Respiratory or skin sensitization

Data not available.

Germ cell mutagenicity

Data not available.

Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (1,4-Dioxane)

Reproductive toxicity

Data not available.

Specific target organ toxicity – single exposure

Data not available.

Specific target organ toxicity – repeated exposure

Data not available.

Aspiration hazard

Data not available.

Other information

RTECS: Data not available

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Data not available.

Persistence and degradability

Data not available.

Bioaccumulative potential

Data not available.

Mobility in soil

Data not available.

Other adverse effect

Data not available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical scrubber.

Contaminated packaging

Dispose off as unused product.

SECTION 14 – TRANSPORT INFORMATION

UN Number

ADR/RID: -

IMDG: -

IATA-DGR: -

UN Proper Shipping Name:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

Transport Hazard Class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

Packing Group

ADR/RID: -

IMDG: -

IATA-DGR: -

Environmental Hazards

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

Special Precaution for Users

Data not available

SECTION 15 – REGULATORY INFORMATION

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

Data not available

SECTION 16 – OTHER INFORMATION

Date of Issue: JULY 11, 2012

Date of Revision: FEBRUARY 23, 2022

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.