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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: IPTG, solution Product Code: I 1701 CAS No : 367-93-1

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email <u>info@ottokemi.com</u>

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Eye irritation, (Category 2) Carcinogenicity, (Category 1B) 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Hazard Statements H319 H351 Precautionary Statements P281 P305 + P351 + P338

Supplemental Hazard Statements Pictogram Signal Word Hazard Statements H319 H350 Precautionary Statements P202

P264 P280

P305 + P351 + P338

P308 + P313 P337 + P313 Supplemental Hazard information (EU) EUH019

Reduced Labeling (<= 125 ml) Pictogram Signal Word H319: Causes serious eye irritation. H350: May cause cancer.

Warning

Causes serious eye irritation. Suspected of causing cancer.

Use personal protective equipment as required. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. none

Danger

Causes serious eye irritation. May cause cancer.

Do not handle until all safety precautions have been read and understood. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention.

May form explosive peroxides. Restricted to professional users.

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Danger

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H350	May cause cancer.	
Precautionary Statements	way cause caricer.	
P202		ty precautions have been read and
P280	understood. Wear protective gloves/ pro protection.	otective clothing/ eye protection/ face
P308 + P313	· · · · · · · · · · · · · · · · · · ·	Get medical advice/ attention.
Supplemental Hazard information (EU)	in exposed of concerned.	
EUH019	May form explosive peroxic	des.
2.3 Other hazards		
This substance/mixture contains no comp	onents considered to be either persistent,	
	persistent and very bioaccumulative (vPvB) at	
levels of 0.1% or higher.		
Ecological information:		
The substance/mixture does not contain c		
	Article 57(f) or Commission Delegated regula	tion
	n (EU) 2018/605 at levels of 0.1% or higher.	
Toxicological information:		
	components considered to have endocrine	
	Article 57(f) or Commission Delegated regula	tion
(EU) 2017/2100 or Commission Regulatio	n (EU) 2018/605 at levels of 0.1% or higher.	
SECTION 3: Composition/information o	on ingredients	
3.1 Substances Synonyms : IPTG		
-,,	Dithiagalastasida	
Formula : C9H18O5	-D-thiogalactoside	
Molecular weight : 238,3 g/m		
CAS-No. : 367-93-1		
EC-No. : 206-703-0		
LC-NO		
Component	Classification	Concentration
1,4-Dioxane Included in the Candidate		
List of Substances of Very High Concern		
List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
(SVHC) according to Regulation (EC) No.		>= 10 - < 20 %
(SVHC) according to Regulation (EC) No. 1907/2006 (REACH)	Flam. Liq. 2; Eye Irrit. 2; Carc. 1B; STOT SE 3; H225, H319, H350, H335	>= 10 - < 20 %
(SVHC) according to Regulation (EC) No. 1907/2006 (REACH) CAS-No. 367-93-1	Flam. Liq. 2; Eye Irrit. 2; Carc. 1B; STOT	>= 10 - < 20 %

SECTION 4: First aid measures

4.1 Description of first-aid measures
General advice
Show this material safety data sheet to the doctor in attendance.
If inhaled
After inhalation: fresh air. Call in physician.
In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section

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2.2) and/or in section 11 4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing media Water Foam Carbon dioxide (CO2) Dry powder Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given. 5.2 Special hazards arising from the substance or mixture Carbon oxides Sulfur oxides Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. 5.3 Advice for firefighters Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. 5.4 Further information Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. **SECTION 6: Accidental release measures** 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8. 6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area.

Avoid generation of dusts. 6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Advice on safe handling Work under hood. Do not inhale substance/mixture. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to gualified or authorized persons. Storage stabilityRecommended storage temperature 2 - 8 °C Test for peroxide formation periodically and before distillation. Storage class Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eve/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Skin protection This recommendation applies only to the product stated in the safety data sheet. supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: butyl-rubber Minimum layer thickness: 0,70 mm Break through time: 480 min Material tested:Butoject® (KCL 898) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Viton® Minimum layer thickness: 0,70 mm Break through time: 120 min Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M) Body Protection protective clothina Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Control of environmental exposure Do not let product enter drains. **SECTION 9: Physical and chemical properties** 9.1 Information on basic physical and chemical properties a) Physical state powder b) Color light yellow No data available c) Odor d) Melting 120 - 122 °C point/freezing point No data available e) Initial boiling point and boiling range f) Flammability (solid, No data available gas) g) Upper/lower No data available flammability or explosive limits h) Flash point No data available i) Autoignition No data available temperature

No data available

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j) Decomposition

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temperature k) pH I) Viscosity

m) Water solubility n) Partition coefficient: n-octanol/water o) Vapor pressure p) Density Relative density q) Relative vapor density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information No data available No data available Viscosity, kinematic: No data available Viscosity, dynamic: No data available No data available No data available

No data available No data available No data available No data available

No data available

Not classified as explosive. none

SECTION 10: Stability and reactivity

10.1 Reactivity Formation of peroxides possible. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. 10.2 Chemical stability The product is chemically stable under standard ambient conditions (room temperature) . 10.3 Possibility of hazardous reactions Risk of explosion with: triethylaluminium lithium aluminium hydride Triethylamine Boranes silver perchlorate Oxygen Nitric acid with perchloric acid . Raney-nickel with Hydrogen Risk of ignition or formation of inflammable gases or vapours with: fire-promoting substances Exothermic reaction with: Oxidizing agents Sulfur trioxide acids 10.4 Conditions to avoid Moisture. 10.5 Incompatible materials No data available 10.6 Hazardous decomposition products Peroxides In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

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Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remark		i skin contact (irritant), of innalation (lung irrita	ant).
to Animals: Not	available.		
	s on Chronic Effects on Humans: Not		
Special Remark	s on other Toxic Effects on Humans: N	Not available.	
SECTION 12: E	cological information		
12.1 Toxicity			
No data availabl			
	e and degradability		
No data availabl			
12.3 Bioaccumu No data availabl	•		
12.4 Mobility in			
No data availabl			
	PBT and vPvB assessment		
	mixture contains no components cons	idered to be either persistent,	
	and toxic (PBT), or very persistent ar		
levels of 0.1% o			
12.6 Endocrine	disrupting properties		
Product:			
Assessment	: The substance/mixture does not		
	considered to have endocrine dis		
	according to REACH Article 57(f)		
	Delegated regulation (EU) 2017/2 Regulation (EU) 2018/605 at leve	ls of 0.1% or higher	
12.7 Other adve			
No data availabl			
	isposal considerations		
13.1 Waste trea			10
No data availabl	e		
14.1 UN number	ransport information		
ADR/RID: -		IMDG: -	IATA: -
14.2 UN proper	shipping name	INDO.	IA IA
ADR/RID	: Not dangerous goods		
IMDG	: Not dangerous goods		
IATA	: Not dangerous goods		
14.3 Transport h	nazard class(es)		
ADR/RID: -		IMDG: -	IATA: -
14.4 Packaging	group		1.4 7.4
ADR/RID: - 14.5 Environme	ntal hazarda	IMDG: -	IATA: -
ADR/RID: no	ntarnazaros	IMDG Marine pollutant: no	IATA: no
	ecautions for user		
No data availabl			
Further informat	ion		
Not classified as	s dangerous in the meaning of transpo	ort regulations.	
	equiatory information		
	alth and environmental regulations/legi	islation specific for the	
substance or mi	÷ *		
	fety data sheet complies with the requ	irements of Regulation (EC) No.	
1907/2006.			
	nd/or restrictions on use		
DEACH Condi	data List of Substances of Vory		

REACH - Candidate List of Substances of Very

High Concern for Authorisation (Article 59).

REACH - Restrictions on the manufacture,

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^{: 1,4-}Dioxane

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placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : 1,4-Dioxane Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. 15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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