



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: IODINE

CAS Number: 7553-56-2

1. IDENTIFICATION:

Product Code : 90174, 90754, 90783, 91235

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:**Hazard classification****Health hazards**

Acute toxicity : Category 4 (Harmful if swallowed)

Acute toxicity : Category 4 (Harmful if inhaled)

Acute toxicity : Category 4 (Harmful in contact with skin)

Skin irritation : Category 2

Eye irritation : Category 2

Specific target organ toxicity - single exposure, Respiratory system : Category 3

Specific target organ toxicity -repeated exposure, Thyroid : Category 1

Short-term (acute) aquatic hazard : Category 1

Labels elements :**Hazard symbol** :**Signal word** : Danger**Hazard statement**

Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.
Very toxic to aquatic life.

Precautionary statement



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Prevention	: Obtain special instructions before use. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood. Wear protective gloves/ protective clothing/ eye protection/ face protection. Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. Keep container tightly closed. Ground/ bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
Response	: IF exposed or concerned: Get medical advice/ attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Storage	: Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Disposal	: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Iodine	7553-56-2	NLT 99.5%	Yes

4. FIRST AID MEASURES:

General information	: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion	: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Move to fresh air. Call a physician or poison control center immediately. If breathing stops,
Inhalation	: provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.
Skin contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.



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Eye contact	:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	:	The most important known symptoms and effects are described in the labelling.
Indication of immediate medical attention and special treatment needed	:	No data available

5. FIRE FIGHTING MEASURES:**General information****Suitable (and unsuitable) extinguishing media**

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards arising from the chemical	:	Hydrogen iodide Not combustible. Fire may cause evolution of: hydrogen iodide, Ambient fire may liberate hazardous vapors.

Special protective equipment and precautions for firefighters

Special firefighting procedures	:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters	:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures	:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures	:	Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
Environmental precautions	:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.



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7. HANDLING AND STORAGE:**Precautions for safe handling**

Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Ingredients with workplace control parameters****Derived No Effect Level (DNEL)**

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Systemic effects	1 mg/m3
Worker DNEL, longterm	inhalation	Systemic effects	0,07 mg/m3
Worker DNEL, acute	dermal	Systemic effects	NA
Worker DNEL, longterm	dermal	Systemic effects	NA

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,01813 mg/l
Sea water	0,06001 mg/l
Sewage treatment plant	11 mg/l
Fresh water sediment	3,99 mg/kg
Sea sediment	20,22 mg/kg
Soil	5,95 mg/kg

Appropriate engineering controls

: No data available



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Individual protection measures, such as personal protective equipment

General information	:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection	:	Wear safety glasses with side shields (or goggles).
Hand protection	:	Chemical resistant gloves.
Other	:	Wear suitable protective clothing.
Respiratory protection	:	In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge. Recommended Filter type: Filter B-(P2)
Hygiene measures	:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	:	Violet colored crystalline solid or granules.
Odor	:	pungent
Solubility	:	Slightly soluble in water.
Formula	:	I ₂
Molecular Weight	:	253.81 g/mol
Density	:	4.930 g/cm ³ at 20°C
pH	:	5.4
% Volatiles by volume @ 21C (70F)	:	No data available
Boiling Point	:	184.4°C
Melting Point	:	113.5°C
Flash Point	:	No data available
Vapor Density (Air=1)	:	No data available
Vapor Pressure (mm Hg)	:	No data available
Evaporation Rate (BuAc=1)	:	No data available



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10. STABILITY AND REACTIVITY:**Reactivity** : No data available**Chemical stability** : Material is stable under ambient conditions..**Possibility of hazardous reactions****Risk of explosion with:** Reducing agents, Alkali metals, Acetylene, Ammonia, Potassium, copper compounds, sodium, oxyhalogenic compounds, Boron, halogen oxides, azides, ammonium compounds, antimony, in powder form, mercury oxide with Methanol and ethanol.**Risk of ignition or formation of inflammable gases or vapours with:** Powdered metals, Zinc, semimetals, halogen-halogen compounds, nonmetals, nonmetallic oxide,s alkali, salts, Iron, Fluorine, formaldehyde, hydrides, sodium phosphite, phosphorus, sulfur, Titanium, powdered aluminium, acetylidene, combustible substances, powdered magnesium, petrol, butadiene, Diethyl ether with Aluminum**Exothermic reaction with:** carbides, azides, turpentine oils and/or turpentine substitutes ,alkali oxides, lithium silicide, alkaline earth compounds, nitrides, Acetaldehyde, Lithium,fluorides Oxides of phosphorus, Chlorine, Iron in powder form**Conditions to avoid** : No information available**Incompatible materials** : No data available**Hazardous decomposition products** : In the event of fire: see section 5**11. TOXICOLOGICAL INFORMATION:****Information on toxicological effects****Acute toxicity (list all possible routes of exposure)****Oral Product** : LD 50 (Rat): 315 mg/kg**Dermal Product** : LD 50 (Rabbit): 1.425 mg/kg**Inhalation Product** : LC 50 (Rabbit): 4.588 mg/kg**Repeated dose toxicity Product** : No data available.**Skin corrosion/irritation Product** : Moderate skin irritation**Serious eye damage/eye irritation Product** : Causes serious eye irritation.**Respiratory or skin sensitization Product** : In animal experiments: - Mouse
Result: negative**Carcinogenicity Product** : No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans** : No data available.



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US. National Toxicology

Program (NTP) Report on : No data available.

Carcinogens

US. OSHA Specifically

Regulated Substances (29 : No data available.

CFR 1910.1001-1050

Germ cell mutagenicity

In vitro Product

: No data available.

Reproductive toxicity

Product

: No data available.

Specific target organ

toxicity - single exposure

Product

: Inhalation - May cause respiratory irritation. - Respiratory system

Specific target organ

toxicity - repeated

exposure Product

: Oral - Causes damage to organs through prolonged or repeated exposure. - Thyroid

Aspiration hazard Product

: No data available.

Other effects

: None known.

12. ECOLOGICAL INFORMATION:

Ecotoxicity

Acute hazards to the aquatic environment

Fish Product

: static test LC50 - Oncorhynchus mykiss (rainbow trout) - 1,67 mg/l - 96 h

Toxicity to daphnia and

other aquatic invertebrates

: static test EC50 - Daphnia magna (Water flea) - 0,55 mg/l - 48 h

Toxicity to algae

: Growth inhibition ErC50 - Desmodesmus subspicatus (green algae) - 0,13 mg/l - 72 h

Toxicity to bacteria

: EC50 - activated sludge - 280 mg/l - 3 h

Chronic hazards to the aquatic environment

Fish Product

: No data available.

Aquatic invertebrates

Product

: No data available.

Toxicity to Aquatic Plants

Product:

: No data available.

Persistence and

degradability

: The methods for determining the biological degradability are not applicable to inorganic substances

Biodegradation Product

: No data available.

BOD/COD ratio Product

: No data available.

Bioaccumulative potential



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Bioconcentration factor (BCF) Product : No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow) Product : No data available.

Mobility in soil : No data available.

Other adverse effects : No data available.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 3495	Iodine	8 (6.1)	III	Yes
IMDG	UN 3495	Iodine	8 (6.1)	III	Yes
IATA	UN 3495	Iodine	8 (6.1)	III	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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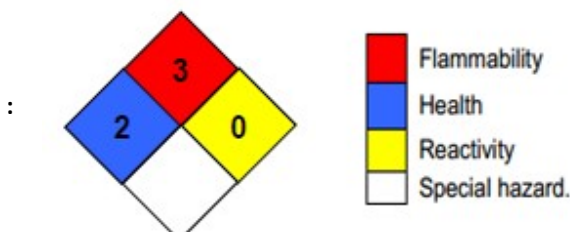
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16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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