

MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: CRYSTAL VIOLET INDICATOR

CAS Number: 548-62-9

1. IDENTIFICATION:

Product Code : 91791

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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

Acute toxicity : Category 4

Serious eye damage : Category 1

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 1 B

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

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

Hazard statement Harmful if swallowed.
Causes serious eye damage.

: Suspected of causing genetic defects.
May cause cancer.
Very toxic to aquatic life with long lasting effects.

Precautionary statement

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.

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Response	:	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 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.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Hazardous
Crystal Violet indicator	548-62-9	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. Get medical attention.
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	:	Water, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.



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Specific hazards arising from the chemical : Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special firefighting procedures : 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.

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. Ground container and transfer equipment to eliminate static electric sparks.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:

Appropriate engineering controls : No data available

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

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	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.
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	: Dark green crystalline powder.
Odor	: No data available
Solubility	: No data available
Formula	: $C_{25}H_{30}ClN_3 \cdot xH_2O$
Molecular Weight	: 407.99 g/mol
Density	: 1,190 g/cm ³ (20 °C)
pH	: No data available
% Volatiles by volume @ 21C (70F)	: No data available
Boiling Point	: No data available
Melting Point	: No data available
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

10. STABILITY AND REACTIVITY:

Reactivity	: 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.
Chemical stability	: Material is stable under ambient conditions.

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Possibility of hazardous reactions : No data available.

Conditions to avoid : No data available.

Incompatible materials : Strong oxidizing agents.

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 : No data available.

Dermal Product : No data available.

Inhalation Product : No data available.

Repeated dose toxicity Product : No data available.

Skin corrosion/irritation Product : No data available.

Serious eye damage/eye irritation Product : Mixture causes serious eye damage.

Respiratory or skin sensitization Product : No data available.

Carcinogenicity Product : This substance has no evidence of carcinogenic properties

Germ cell mutagenicity : No data available.

Reproductive toxicity Product : No components toxic to reproduction.

Specific target organ toxicity - single exposure Product : Not known.

Specific target organ toxicity - repeated exposure Product : None known.

Aspiration hazard Product : No data available.

Other effects : No data available.

Components

Crystal violet

Acute toxicity: LD50 Oral - Rat - 420 mg/k
Inhalation: No data available
: Dermal: No data available
Skin corrosion/irritation: No skin irritation.
Serious eye damage/eye irritation: Causes serious eye damage.

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Respiratory or skin sensitization: No data available
Germ cell mutagenicity: Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Result: negative
Remarks: (ECHA)
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Remarks: (National Toxicology Program)
Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: No data available.
Specific target organ toxicity - single exposure: No data available.
Specific target organ toxicity - repeated exposure: No data available.
Aspiration hazard: No data available.

4,4'-bis(dimethylamino)benzophenone:-

Acute toxicity: Oral: No data available Inhalation: No data available Dermal: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: Laboratory experiments have shown mutagenic effects. In vitro tests showed mutagenic effects
Carcinogenicity: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Possible human carcinogen
Reproductive toxicity: No data available.
Specific target organ toxicity - single exposure: No data available.
Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard: No data available

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product : No data available.

Aquatic invertebrates Product : No data available.

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

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Biodegradation Product : No data available.**BOD/COD ratio Product** : No data available.**Bioaccumulative potential****Bioconcentration factor (BCF) Product** : No data available.**Partition coefficient n-octanol / water (log Kow) Product** : No data available.**Mobility in soil** : No data available.**Other adverse effects** : No data available.**Components:****Crystal violet:****Toxicity to fish:** LC50 (Pimephales promelas (fathead minnow)): 0,13 mg/l Exposure time: 96 h**Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): > 0,24 - < 0,5 mg/l Exposure time: 48 h**Toxicity to algae/aquatic plants:** ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,2 - < 0,8 mg/l Exposure time: 72 h**Toxicity to microorganisms:** EC50 (Bacteria): 10 - 100 mg/l Remarks: (External MSDS)**Biodegradability:** No data available**4,4'-bis(dimethylamino)benzophenone:-****Toxicity to fish:** No data available**Biodegradability:** No data available**Bioaccumulation:** No data available**Stability in soil:** No data available**Additional ecological information:** 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.

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14. TRANSPORT INFORMATION:

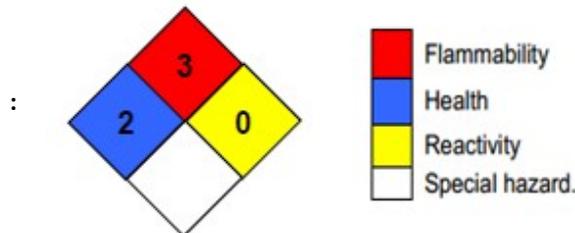
	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Environmental hazards
ADR/RID	UN 3077	Crystal violet indicator	9	III	Yes
IMDG	UN 3077	Crystal violet indicator	9	III	Yes
IATA	UN 3077	Crystal violet indicator	9	III	Yes

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.

16. OTHER INFORMATION:

NFPA Hazard ID



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

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