



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: COD REAGENT

CAS Number: NA

1. IDENTIFICATION:

Product Code : 97193

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:

Hazard classification

Physical hazards

Corrosive to Metals : Category 1

Health hazards

Acute toxicity, Oral : Category 3

Acute toxicity, Inhalation : Category 2

Acute toxicity, Dermal : Category 1

Skin irritation : Category 2

Eye irritation : Category 2

**Specific target organ
toxicity - repeated
exposure, Oral** : Category 2

**Short-term (acute) aquatic
hazard** : Category 1

**Long-term (chronic) aquatic
hazard** : Category 2

Labels elements :

Hazard symbol :



Signal word : Danger

Hazard statement : May be corrosive to metals.
Toxic if swallowed.
Fatal in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause damage to organs (Kidney) through prolonged or repeated exposure.



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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.
- 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.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Component	CAS Number	Concentration
Potassium Dichromate	7778-50-9	>= 0.5 - < 0.7 %
Mercury(II) sulphate	7783-35-9	>= 6 - < 8 %
Sulphuric acid	7664-93-9	>= 10 - < 15 %

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.

Inhalation

- Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
- Get medical attention if symptoms persist.



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Skin contact	:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. 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	:	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	:	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.



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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. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****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 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.



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9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	: Pale yellow to bright orange coloured clear solution.
Odor	: Odourless
Solubility	: Soluble in water.
Formula	: NA
Molecular Weight	: NA
Density	: No data available.
pH	: < 1 at 20 °C
% Volatiles by volume @ 21C (70F)	: No data available.
Boiling Point	: No data available.
Melting Point	: No data available.
Flash Point	: Not applicable.
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	: Has a corrosive effect.
Chemical stability	: Material is stable under ambient conditions..
Possibility of hazardous reactions	Violent reactions possible with: Alkali metals, alkali compounds, Ammonia, alkalines, Metals, Alkaline earth metals, alkaline earth compounds, metal alloys, Acids. Violent reactions possible with: The generally known reaction partners of water.
Conditions to avoid	: No data available.
Incompatible materials	: Animal / vegetable tissues Gives off hydrogen by reaction with metals.
Hazardous decomposition products	: In the event of fire: see section 5



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11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product : 161,29 mg/kg

Dermal Product : 32,9 mg/kg

Inhalation Product : 0,329 mg/l - dust/mist

Repeated dose toxicity Product : No data available.

Skin corrosion/irritation Product : Mixture causes skin irritation.

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

Respiratory or skin sensitization Product : Not a skin sensitizer.

Carcinogenicity Product : This substance has no evidence of carcinogenic properties

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans : No carcinogenic components identified.

US. National Toxicology Program (NTP) Report on Carcinogens : No carcinogenic components identified.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050 Germ cell mutagenicity : No carcinogenic components identified.

In vitro Product : No data available.

Reproductive toxicity Product : No components toxic to reproduction.

Specific target organ toxicity - single exposure Product : Mixture may cause damage to organs through prolonged or repeated exposure. - Kidney

Specific target organ toxicity - repeated exposure Product : No data available.

Aspiration hazard Product : No data available.

Other effects : No data available.

Components

Mercury (II) sulphate : **Acute toxicity** :- LD50 Oral- Mouse - 25 mg/kg
Acute toxicity estimate Inhalation - 0,051 mg/l - dust/mist
Acute toxicity estimate Dermal - 5,1 mg/kg



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Skin corrosion/irritation :- No data available.
Serious eye damage/eye irritation :- No data available.
Respiratory or skin sensitization :- No data available.
Germ cell mutagenicity :- No data available.
Carcinogenicity :- No data available.
Reproductive toxicity :- No data available.

Specific target organ toxicity- single exposure : No data available.
Specific target organ toxicity - repeated exposure : May cause damage to organs through Prolonged or repeated exposure. – Kidney
Aspiration hazard : No data available.
Sulphuric acid : **Acute toxicity :** LD50 Oral - Rat - male and female - 2.140 mg/kg
Skin corrosion/irritation :- Extremely corrosive and destructive to tissue.
Serious eye damage/eye irritation :- Causes serious eye damage.
Respiratory or skin sensitization :- No data available.
Germ cell mutagenicity :- No data available.
Carcinogenicity :- No data available.
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

Biodegradation Product : No data available.

BOD/COD ratio Product : No data available.

Bioaccumulative potential

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



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Partition coefficient n-octanol / water (log Kow) : No data available.
Product
Mobility in soil : No data available.
Other adverse effects : Discharge into the environment must be avoided.

Components

Mercury(II) sulphate : Toxicity to fish : LC50 - Pimephales promelas (fathead minnow) - 0,19 mg/l - 96 h
Toxicity to algae : EC50 - Ankistrodesmus falcatus - 0,07 mg/l - 14 Days
Sulphuric Acid :
Toxicity to daphnia and other aquatic invertebrates : static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
Toxicity to algae : static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l

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 2922	COD Reagent	8 (6.1)	II	Yes
IMDG	UN 2922	COD Reagent	8 (6.1)	II	Yes
IATA	UN 2922	COD Reagent	8 (6.1)	II	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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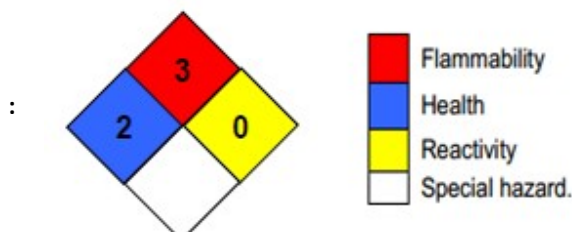
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16. OTHER INFORMATION:

NFPA Hazard ID



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

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