



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

1. IDENTIFICATION:

Product Code : 91904

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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

Skin irritation : Category 2

Eye irritation : Category 2

Skin sensitisation : Category 1

Germ cell mutagenicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Labels elements :

Hazard symbol : 

Signal word : Warning

Hazard statement : Causes skin irritation.
May cause an allergic skin reaction.
: Causes serious eye irritation.
May cause respiratory irritation.
Suspected of causing genetic defects.

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/



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

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 : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGRADIENTS:

Ingredient	CAS Number	Percent	Hazardous
Glyoxal Solution 40% in Water	107-22-2	38.0 - 42.0%	No

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.

Skin contact : 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.

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 : Toxic if inhaled. Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed : Symptoms may be delayed. Treat symptomatically.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

5. FIRE FIGHTING MEASURES:

General information : No data available

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, dry powder or carbon dioxide.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

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 container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

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.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance : Colorless to yellow liquid.

Odor : No data available

Solubility : No data available

Formula : $C_2H_2O_2$

Molecular Weight : 58.04 g/mol

Specific Gravity : No data available

pH : > 2 - 3 (20 °C)

% 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



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

10. STABILITY AND REACTIVITY:

Reactivity	: No data available
Chemical stability	: Material is stable under ambient conditions.
Possibility of hazardous reactions	: Hazardous reactions : Violent reactions possible with: alkalines Amines Ammonia Ethyleneimine Sodium hydroxide polymerisation initiators nitric acid (conc.) conc. sulfuric acid Chlorosulfonic acid.
Conditions to avoid	: No data available
Incompatible materials	: Aluminium, Copper and Mild steel.
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)**

Inhalation Product	Oral: No data available Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Acute toxicity estimate Inhalation - 4 h - > 20 mg/l – vapour (Calculation method) Symptoms: Possible symptoms:, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Dermal: No data available
Repeated dose toxicity Product	: No data available.
Skin corrosion/irritation Product	: Remarks: Mixture causes skin irritation.
Serious eye damage/eye irritation Product	: Remarks: Mixture causes serious eye irritation.
Respiratory or skin sensitization Product	: Mixture may cause an allergic skin reaction.
Carcinogenicity Product	: No data available
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050	: No data available.
Germ cell mutagenicity	: Suspected of causing genetic defects.
In vitro Product	: No data available.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

Reproductive toxicity	:	No data available
Product	:	
Specific target organ	:	
toxicity - single exposure	:	Inhalation - May cause respiratory irritation.
Product	:	
Specific target organ	:	
toxicity - repeated	:	No data available.
exposure Product	:	
Aspiration hazard Product	:	No data available.
Other effects	:	None known.

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

Fish Product	LC50 (Leuciscus idus (Golden orfe)): 186 - 272 mg/l
	End point: mortality
	: Exposure time: 96 h
	Test Type: static test
	Method: DIN 38412 part 15
Aquatic invertebrates	EC50 (Americamysis bahia (Mysid)): 69,2 mg/l
Product	End point: mortality
	Exposure time: 48 h
	: Test Type: semi-static test
	Analytical monitoring: yes
	Method: US-EPA
	GLP: yes

Chronic hazards to the aquatic environment

Fish Product	NOEC: 112 mg/l End point: Growth inhibition
	Exposure time: 34 d
	Species: Pimephales promelas (fathead minnow)
	: Test Type: flow-through test
	Analytical monitoring: yes
	Method: OECD Test Guideline 210
	GLP: yes
Aquatic invertebrates	NOEC: 3,19 mg/l
Product	End point: reproduction rate
	Exposure time: 21 d
	: Species: Daphnia magna (Water flea)
	Test Type: semi-static test
	Analytical monitoring: yes
	Method: OECD Test Guideline 211
	GLP: yes
Toxicity to Aquatic Plants	EC50 (Americamysis bahia (Mysid)): 69,2 mg/l
Product:	End point: mortality
	: Exposure time: 48 h
	Test Type: semi-static test



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GLYOXAL SOLUTION 40% IN WATER

CAS Number: 107-22-2

Analytical monitoring: yes
Method: US-EPA GLP: yes
Method: OECD Test Guideline 201
GLP: yes

Persistence and degradability**Biodegradation Product**

Test Type: anaerobic
Concentration: 114 mg/l
Result: Not readily biodegradable.
: Biodegradation: 10 - 20 %
Exposure time: 62 d
Method: OECD Test Guideline 311
GLP: yes

BOD/COD ratio Product

: No data available.

Bioaccumulative potential**Bioconcentration factor (BCF) Product**

: No data available.

Partition coefficient n-octanol / water (log Kow) Product

log Pow: -1,15 (23 °C)
pH: 7.0
: Method: OECD Test Guideline 107
GLP: yes
Remarks: Bioaccumulation is not expected.

Mobility in soil

: No data available

Other adverse effects

: Discharge into the environment must be avoided.

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
DOT	NA	Glyoxal Solution 40% in Water	NA	Not dangerous goods	NA
IMDG	NA	Glyoxal Solution 40% in Water	NA	Not dangerous goods	NA
IATA	NA	Glyoxal Solution 40% in Water	NA	Not dangerous goods	NA

MATERIAL SAFETY DATA SHEET

Version :02

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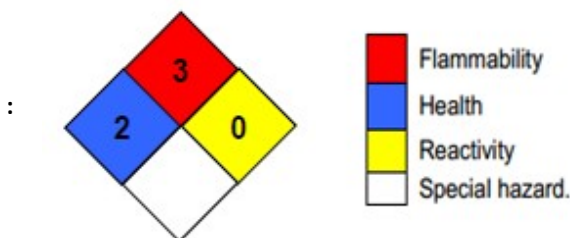
CAS Number: 107-22-2

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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Version : 02

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