

# SAFETY DATA SHEET

# ONICHEM

Onichem Specialities  
www.onichem.com

Date Updated: 15.06.2021  
Version: 5.3  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

## Glyoxal 40%

### \*\*\*\* SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING\*\*\*\*

SDS Name: **Glyoxal 40%**  
Chemical Name: Glyoxal, 40 wt.% solution in water  
Synonym(s): Glyoxal  
IUPAC Name: Oxalaldehyde

REACH registration number: 01-2119461733-37-XXXX

Use of substance/preparation: Intermediate, crosslinking agent for textiles, component of resins in paper industry, component of adhesives and coatings, anti-lump treatment of cellulose ethers, crude oil and gas industry.

Company Identification: Dalian Resourcea Co., Ltd.  
3601, No. 38 Changjiang Road,  
Zhongshan District, Dalian 116001, P.R. China  
Tel: 86-411-62636091, Fax: 86-411-62636092

Information contact: MSDS@onichem.com  
For emergencies, call CHEMTREC 1-800-424-9300 or 1-202-483-7616

### \*\*\*\* SECTION 2 - HAZARDS IDENTIFICATION \*\*\*\*

#### EU-GHS Classifications

Classifications below according to Regulation (EC) No.1272/2008 on classification, labelling and packaging of Substances and Mixtures (CLP).

Acute toxicity, Inhalation	Category 4	H332
Skin Irritation	Category 2	H315
Eye Irritation	Category 2	H319
Skin Sensitization	Category 1	H317
Specific Target Organ Toxicity	Category 3	H335
Germ cell mutagenicity	Category 2	H341

#### GHS-Labeling:

Globally Harmonized System of Classification and Labelling (GHS)

Symbol(s):



Hazard Pictogram: GHS07, GHS08

Signal Word: Warning

Hazard Statement:	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.
	H332	Harmful if inhaled.
	H335	May cause respiratory irritation.
	H341	Suspected of causing genetic defects.

Precautionary Statement:	P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P302+P352	IF ON SKIN: Wash with soap and water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

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P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Other Hazards Not a PBT, vPvB substance as per the criteria of the REACH Ordinance

#### \*\*\*\* SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

Ingredient (Chemical Name)	CAS#	EC#	Symbol(s)	Hazard statements
Water, 60+/-0.5%.	7732-18-5	215-185-5	N/A	N/A
Glyoxal, 40+/-0.5%.	107-22-2	203-474-9	Xn Xi Xi Xi Xi	H332 H319 H315 H317 H341 H335
Glycol, <1 %	107-21-1	203-473-3	Xn	H302 H373

#### \*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

**General information:** Take persons to a safe place. Observe self-protection for first aid. Before seeking medical attention remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Protect unharmed eye. Get medical attention.

**Skin:** Flush skin with plenty of soap and water while removing contaminated clothing and shoes. If irritation develops, seek medical attention.

**Ingestion:** Never give fluids or induce vomiting if patient is unconscious or having convulsions. Allow the victim to rinse his mouth then to drink 2-4 cupfuls of water, and seek medical advice.

**Inhalation:** Remove from exposure to fresh air immediately. Assist in breathing if necessary. Get medical attention.

**Indication of any immediate medical attention and special treatment needed:**

Treat symptomatically and supportively

#### \*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

**General Information:** Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.

**Suitable extinguishing media:** Use water spray, foam, carbon dioxide, or dry chemical powder.

**Further information:** Do not direct a solid stream of water or foam into hot, burning pools: this may cause frothing and increase fire intensity. Cool closed containers exposed to fire with water spray.

**Special hazards arising from the substance or mixture:** Carbon oxides.

**Flash Point:** Non-flammable.

**Auto-ignition temperature:** ca. 285°C (545°F)

**Explosion limit, Lower:** N/A.

**HMIS Classification**

Health 2  
Flammability 0  
Physical hazard 0

Upper: N/A.

**NFPA Rating**

Health 2  
Fire 0  
Reactivity 0

**Advice for firefighters:** Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulation

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## \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

**General Information:** Use proper personal protective equipment as indicated in Section 8. Keep out unprotected persons, ensure adequate ventilation.

**Spills/Leaks:** Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container, to be disposed of in compliance with existing regulations.

**Environmental precautions:** Do not flush into surface water, sanitary sewer system

## \*\*\*\* SECTION 7 - HANDLING AND STORAGE \*\*\*\*

**Handling:** Ensure thorough ventilation of stores and work areas. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

**Storage:** Keep container tightly closed. Store in a dry and cool area (<50°C). Protect from air.

**Storage stability:** Storage duration is about 6 Months. May yellow after lengthy storage. During the storage a product characteristic clouding or crystallin precipitation of the trimeric glyoxal hydrate may occur. The process is reversible if warmed up mild(max. 40°C)

## \*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

### Control parameters

Maximum airborne concentrations at the workplace

Components	CAS No.	Occupational exposure limits
Glyoxal	107-22-2	TWA: 0.1 mg/m <sup>3</sup> Inhalable fraction and vapor --- ACGIH
Glycol	107-21-1	TLV 100 mg/m <sup>3</sup> aerosol; TWA value 25ppm Vapor fraction; STEL value 50ppm Vapor fraction; STEL value 10mg/m <sup>3</sup> Aerosol, inhalable --- ACGIH

Advice: Please provide local exhaust ventilation to control vapors and mists.

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits:** ACGIH-Threshold Limit Value (TLV): 0.1 mg/m<sup>3</sup> TWA (inhalable fraction and vapor).

### Personal Protective Equipment (PPE)

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirator:** Follow the OSHA's 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**Hygiene measures:** When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Remove contaminated or saturated clothing. Wash contaminated clothing before re-use.

**Protective measures:** Handle in accordance with good industrial hygiene and safety practices. If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust)the indicated respiratory protection should be used. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. Do not breathe in vapors or aerosols. Avoid contact with skin and eyes

## \*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Appearance: Colorless to pale yellow and transparent liquid.

Odor: Faint odor.

PH: 2.0-3.5. (400 g/l) @ 20°C

Vapor Pressure: 20.2 hPa @ 20°C

Vapor Density: N/A.

Evaporation Rate: Not available.

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Viscosity: 8.37 mPa.s. (dynamic) @ 20°C

BP/BP Range: 103.6°C @1013 hPa

Freezing / Melting Point: -50°C— -15°C

Flash Point: Non-flammable.

Auto-ignition temperature: ca. 285°C (545°F)

Decomposition Temperature: >120°C No decomposition if correctly stored and handled.

Solubility in water: Miscible.

Specific Gravity/Density: 1.265 g/cm<sup>3</sup> @ 20°C

Molecular Formula: HCOCHO

Molecular Weight: 58.04

#### \*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** See section 7. Temperature: >50 degrees Celsius

**Materials to Avoid:** Strong oxidizing agents, strong alkalies.

**Hazardous Decomposition Products:** No hazardous decomposition products if stored and handled as indicated.

**Hazardous Polymerization:** Has not been reported

#### \*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

Registry of Toxic Effects (RTECS): CAS# 107-22-2: MD2625000 MD2650000 MD2700000

Acute oral toxicity: LD50 Rat: 3,300 mg/kg

Acute inhalation toxicity: LC50 Rat: 2.44mg/l /4h

Acute dermal toxicity: LD50 Rat: >2,000 mg/kg

Chronic oral toxicity: NOAEL Rat 25mg/kg bw/day

Skin irritation: Rabbit, irritant.

Eyes irritation: Rabbit, irritant.

Sensitization: Guinea pig, sensitizing

Carcinogenicity: Rat, no adverse effect observed

#### \*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Environmental Fate and Transport

Biodegradation:

Test method: OECD 301 A (new version) (aerobic), activated sludge, domestic

Method of analysis: DOC reduction

Degree of elimination: 90 - 100 % (19 d)

Evaluation: Readily biodegradable (according to OECD criteria).

Bioaccumulation: Significant accumulation in organisms is not to be expected.

Chemical oxygen demand (COD): 350 mg/g

Biochemical oxygen demand (BOD): Incubation period 5.0 d: 175 mg/g

Environmental Toxicity:

Acute toxicity to fish: LC50/ Leuciscus idus/96h >186 - <272 mg/l DIN 38412 Part 15 static

Acute toxicity to aquatic invertebrates: Daphnia magna/EC50/48h 161 mg/l Directive 79/831/EEC static

Acute toxicity to aquatic plants: Scenedesmus subspicatus/EC50/72h >40 mg/l OECD Guideline 201 static

Long-term toxicity to fish: NOEC/ Fresh water fish, 119mg/l OECD 210

Long-term to aquatic invertebrates: Daphnia magna /NOEC/21day 3.19 mg/l

Microorganisms: Activated sludge/EC20/0.5h >400 mg/l OECD Guideline 209 static

Sediment toxicity: N/A

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## \*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.  
Do not reuse empty containers and dispose of in accordance with the regulation issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label.  
Incorrect disposal or reuse of this container is illegal and can be dangerous.  
No waste key number as per the European Waste Typed List can be assigned to this product, since such classification is based on (as yet undetermined) use to which the product is put by the consumer. The waste key number must be determined as per the European Waste Types List (EU Waste Types List 2000/532/EC) in cooperation with the disposal firm, producing firm or authority

## \*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

This product is not regulated as dangerous goods by DOT, IMDG, ADR/RID, IATA/ICAO

## \*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

### European/International Regulations

European Labeling in Accordance with EC Directives  
Statutory basis/list: According to Directive 67/548/EEC or 1999/45/EC.  
Hazard Symbols:           Xn           Harmful.  
                                  Xi           Irritant.

### Other international regulations:

Listed on or in accordance with the following inventories  
AICS – Listed/registered  
EINECS - Listed/registered  
ENCS - Listed/registered  
IECSC - Listed/registered  
KECL - Listed/registered  
DSL - Listed/registered  
PICCS - Listed/registered  
TSCA - Listed/registered  
NZIoC - Listed/registered  
TCSI - Listed/registered

## \*\*\*\* SECTION 16 - OTHER INFORMATION \*\*\*\*

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages