

SAFETY DATA SHEET

Product Name: RZ-964 Epoxy Hardener

MSDS No.: SDS-2019-12-RZ-964

Revision Date: 01.12.2019

Version No.: 1.0

01 Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

RZ-964; Epoxy Hardener

1L

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Suite 718, Wins Business Center, No.78 Jiefangzhuang Road, Baiyun District, Guangzhou City, P.R. China. Post Code: 510440

E-mail address:

info@wonder-global.com

02 Section 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

- Flam. Liq. 3, H226 Flammable liquid and vapour.
- Skin Corr./Irrit. 2, H315 Causes skin irritation.
- Eye Dam./Irrit. 2, H319 Causes serious eye irritation.
- STOT SE 3, H335 May cause respiratory irritation.
- STOT SE 3, H336 May cause drowsiness or dizziness.
- STOT RE 2, H373 May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

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Hazard pictogram:



Signal word:

Warning

Hazard statements:

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation. H335

May cause respiratory irritation. H336

May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements (Prevention):

P271 Use only outdoors or in a well-ventilated area. P280

Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements (Response):

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements (Storage):

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazard determining component(s) for labelling:

methyl isobutyl ketone n-

butylacetate

xylene (mixture of isomeres)

2.3. Other hazards

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

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03 Section 3: Composition/Information on Ingredients

Substances/Mixtures: Mixture

Ingredient Name	Content (%)	CAS Number
1-Butanol	35-40%	71-36-3
Fatty Acids	50-55%	68410-23-1
Toluene	5-10%	108-88-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

04 Section 4: First Aid Measures

4.1. Description of first aid measures

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

If inhaled

Remove patient to fresh air and seek medical assistance. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position.

On skin contact

Remove contaminated clothing. Wash skin with soap and water, rinse abundantly. Do NOT use solvents or thinners.

On contact with eyes

Contact lenses should be removed. Hold eyelids open and flush with copious amounts of clean, fresh water or a special eyewash solution and seek medical advice.

On ingestion

If swallowed, rinse mouth with plenty of water (only if the person is conscious) and seek medical advice immediately. Keep the injured person at rest. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed.

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The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed

No data available.

05 Section 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media

Foam (alcohol resistant), carbon dioxide, powders, water spray.

Do not allow run-off from fire fighting to enter drains or water courses.

Unsuitable extinguishing media for safety reasons

Water jet

5.2. Special hazards arising from the substance or mixture

Fire will produce dense black smoke. Inhalation of dangerous decomposition products may cause serious damage to health.

5.3. Advice for firefighters

Special protective equipment

Appropriate breathing apparatus may be required.

Additional information

Cool closed containers in the vicinity of the source of fire.

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06 Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

Exclude sources of ignition and ventilate the area. Avoid breathing vapours.

6.2. Environmental precautions

Do not allow to enter drains or watercourses. If the product enters drains or sewers, the local water company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the Environment Agency.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal according with the waste regulations (see section 13). Clean preferably with a detergent; avoid the use of solvents.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

07 Section 7: Handling and Storage

7.1. Precautions for safe handling

Instructions for Safe Handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.

Avoid skin and eye contact. Avoid inhalation of vapour and spray mist. Avoid

inhalation of dust from sanding.

Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws.

Isolate from sources of heat, sparks and open flame. Do not use any sparking tools.

Product may charge electrostatically: always use earthing leads when transferring from one container to another and earth containers. It is recommended that operators should wear

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antistatic clothing and footwear.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Information on Fire and Explosion Protection

Solvent vapours are heavier than air and spread along floors. Vapour forms explosive mixtures with air.

Keep container dry and tightly closed in a cool well-ventilated place.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for Storage Areas and Containers

Electrical equipment must be explosion-proof to the appropriate standard. Floors must be of conducting type and impermeable to the materials being stored.

Keep container tightly closed. Never use pressure to empty; container is not a pressure vessel. Close containers carefully once opened and store upright in order to prevent any leakage. No smoking. Prevent unauthorized access.

Information on Combined Storage

Keep away from oxidising agents, from strongly alkaline and strongly acid materials.

Additional Information on Storage Conditions

Always keep in containers of same material as the original one. Observe label precautions. Store in a dry, well ventilated place away from sources of heat and direct sunlight. Keep away from sources of ignition.

Storage temperature : 5 - 35 °C

7.3. Specific end use(s)

Detailed information can be gained from the relevant technical data sheets.

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8.1. Control parameters

Occupational Exposure Limits

Ingredient name	Exposure limits

In addition to the indicative occupational exposure limit values according to

Directive 2000/39/EC, the country-specific occupational exposure limits applicable to the substances specified in chapter 3 must be taken into account.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. This can be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations at the workplace below the occupational exposure limits, appropriate certified respirators must be worn.

Personal protective equipment

Respiratory Protection

When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet (sanding/ flatting) should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Use A1P2 breathing-protection half mask in case of contact with aerosols.

Hand Protection

Wear protective gloves.

Any chemical protection glove certified according to EN 374 is suitable: e.g. nitrile gloves

Material thickness: = 0,7 mm

Further information on penetration time is available from the manufacturer of the glove.

Data are based on information from the glove manufacturer, the raw material manufacturer or according to specifics of the product components.

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The protection glove should be tested for its specific suitability (e.g. mechanical strength, product compatibility, anti-static properties).

Follow manufacturer's advice on use, storage, maintenance and replacement of gloves.

The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).

Eye Protection

Required when there is a risk of eye contact.

Use tight-fitting protective goggles.

Skin Protection

Personnel should wear antistatic, flame-retardant clothing made of natural fibres and/or heat-resistant synthetic fibres.

Environmental exposure controls

See section 7 and 12

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09 Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance

Physical state: Liquid.

Color: Transparent

Odor: Not available.

Odor threshold: Not available.

pH: Not available.

Melting/freezing point: Not available.

Boiling point: Not available.

Boiling range: Not available.

Flash point (closed cup): 28°C (82.4°F)

Evaporation rate: Not available.

Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits

Upper: Not determined.

Lower: Not determined.

Vapor pressure: Not available.

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Vapor density: Not available.

Solubility: Not available.

Solubility in water: Not available.

Partition coefficient: octanol/ water: not available

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity (4# cup, 30 °C): 90s±20s

10 Section 10: Stability and Reactivity

10.1. Reactivity

Stable under recommended storage and handling conditions (see section 7).

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame.

10.5. Incompatible materials

Keep away from highly acidic or alkaline substances as well as oxidants in order to prevent exothermal reactions.

10.6. Hazardous decomposition products

When exposed to high temperatures hazardous decomposition products such as carbon monoxide, carbon dioxide, smoke, oxides of nitrogen may be produced.

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11 Section 11: Toxicological Information

11.1. Information on toxicological effects

The mixture has been assessed following regulation (EC) No 1272/2008. See sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated and prolonged exposure to solvents at levels significantly above OELs may lead to the development of long-lasting central nervous system disorders such as chronic toxic encephalopathy, signs of toxicity include changes in behaviour and memory. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

Acute toxicity

Based on available Data, the classification criteria are not met.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

The liquid splashed in the eyes may cause irritation and reversible damage.

Respiratory sensitization/skin

Based on available Data, the classification criteria are not met.

Germ cell mutagenicity

Based on available Data, the classification criteria are not met.

Carcinogenicity

Based on available Data, the classification criteria are not met.

Toxicity for reproduction

Based on available Data, the classification criteria are not met.

Specific target organ toxicity - single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

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Aspiration hazard

Based on available Data, the classification criteria are not met.

12 Section 12: Ecological Information

There are no test results available for this product.

The mixture has been assessed following regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See sections 2 and 3 for details.

12.1. Toxicity

Based on available Data, the classification criteria are not met.

12.2. Persistence and degradability

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Biological degradability of hazardous substances mentioned in section 3:

CAS no.	test method	biological degradability %
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12.3. Bioaccumulative potential

n.d.a.

12.4. Mobility in soil

n.d.a.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects

The product should not be allowed to enter drains or water courses.

13 Section 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

European list of wastes

Commission Decision 2000/532/EC dated 3rd May, 2000

08 01 11*

Waste from the manufacture, formulation, supply and use (MFSU) and removal of paint and varnish;
waste paint and varnish containing organic solvents or other dangerous substances

Any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

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Contaminated packaging

Recommendation

Containers which are not properly emptied must be disposed pursuant to Directive 91/689/EEC

14 Section 14: Transport Information

14.1. UN number

Transport by Road or Rail (ADR/RID):

1263

Sea Transport (IMDG):

1263

Air Transport (IATA/ICAO):

1263

Inland waterway transport (ADN):

not evaluated

14.2. UN proper shipping name

Transport by Road or Rail (ADR/RID):

PAINT

Sea Transport (IMDG):

PAINT

Air Transport (IATA/ICAO):

PAINT

Inland waterway transport (ADN):

not evaluated

14.3. Transport hazard class(es)

Transport by Road or Rail (ADR/RID):

3

Sea Transport (IMDG):

3

Air Transport (IATA/ICAO):

3

Inland waterway transport (ADN):

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not evaluated

14.4. Packing group

Transport by Road or Rail (ADR/RID): III

Sea Transport (IMDG):

III

Air Transport (IATA/ICAO): III

Inland waterway transport (ADN):

not evaluated

14.5. Environmental hazards

Transport by Road or Rail (ADR/RID):

none

Sea Transport (IMDG):

none

Inland waterway transport (ADN):

not evaluated

14.6. Special precautions for user

Transport by Road or Rail (ADR/RID):

Tunnel code: D/E

Hazard number 30

Special provision 640 E

NOT CLASS 3 GOODS in containers of less than 450 litres

Sea Transport (IMDG):

EMS-Nr: F-E, S-E

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not evaluated

15 Section 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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Information pursuant to VOC Directive 1999/13/EC (for product as supplied)

Volatile organic solvents: 57%

VOC :57%

Volatile CMR substances : n.a.

Details relating to the VOC Directive 2004/42/EC Subcategory

as indicated in Annex IIB : n.a.

Limit value for maximum VOC content

as specified in Annex IIB : n.a.

National Regulations

15.2. Chemical safety assessment

Chemical Safety Assessment not required

16 Section 16: Other Information

Restricted to professional users.

This safety data sheet is prepared in accordance with Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010.

The information contained in this safety data sheet does not relieve users from the obligation to carry out their own risk assessment according to Directive 98/24/EC.

Full text of hazard statements for components listed in section 2 and 3

Acute Tox.

Acute toxicity

Aquatic Chronic

Hazardous to the aquatic environment - chronic

Asp. Tox.

Aspiration hazard

Eye Dam./Irrit.

Serious eye damage/eye irritation

Flam. Liq.

Flammable liquids

Repr.

Reproductive toxicity

STOT RE

Specific target organ toxicity - repeated exposure

STOT SE

Specific target organ toxicity - single exposure

Skin Corr./Irrit.

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Skin corrosion/irritation

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H225

Highly flammable liquid and vapour.

H226

Flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H312

Harmful in contact with skin.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

H335

May cause respiratory irritation.

H336

May cause drowsiness or dizziness.

H361d

Suspected of damaging the unborn child.

H373

May cause damage to organs through prolonged or repeated exposure.

H412

Harmful to aquatic life with long lasting effects.

For multi-pack systems observe material safety data sheets of all components.

Explanation of abbreviations:

n.d.a. no data available

n.a. not applicable

EU-L Indicative occupational exposure limit value according to Directive 98/24/EC - 8 hours

EU-S Indicative occupational exposure limit value according to Directive 98/24/EC - short-term

EUCLV Indicative occupational exposure limit value according to Directive 98/24/EC - Ceiling Limit Value

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.