

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Epoxy resin HT2

Print date: 18.07.2013

Product code: 105105-GHS-2012

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Epoxy resin HT2

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

Use of the substance/mixture

epoxy resin systems

1.3. Details of the supplier of the safety data sheet

Company name:	R&G Faserverbundwerkstoffe GmbH	
	Composite Technology	
Street:	Im Meißel 7 - 13	
Place:	D-71111 Waldenbuch	
Post-office box:	1145	
	D-71107 Waldenbuch	
Telephone:	+49-7157-530460	Telefax: +49-7157-530470
e-mail:	info@r-g.de	
Internet:	www.r-g.de	
Responsible Department:	Management	

1.4. Emergency telephone number:

poison information centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: Xi - Irritant, N - Dangerous for the environment

R phrases:

Irritating to eyes.

Irritating to skin.

May cause sensitisation by skin contact.

Toxic to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

GHS classification

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory/skin sensitization: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

epoxy resin (number average molecular weight \leq 700), reaction product: bisphenol-A-(epichlorhydrin)epoxy resin (number average molecular weight \leq 700), reaction product: bisphenol-F-(epichlorhydrin)

Signal word: Warning

Pictograms: GHS07-GHS09

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**Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P321	Specific treatment (see ... on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P363	Wash contaminated clothing before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.
P501	Dispose of contents/container to

Additional advice on labelling

The product is classified and labelled under the EC Directives/hazardous substances laws (GefStoffV).

2.3. Other hazards

The residual content of epichlorohydrin complies with the APME recommendations for modified epoxy resins. < 10ppm (0,001%).

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Modifiziertes Epoxidharz

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Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
500-033-5	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)	50 - 70 %
25068-38-6	Xi - Irritant, N - Dangerous for the environment R36/38-43-51-53	
603-074-00-8	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H319 H315 H317 H411	
500-006-8	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-F-(epichlorhydrin)	20 - 25 %
9003-36-5	Xi - Irritant, N - Dangerous for the environment R36/38-43-51-53	
603-074-00-8	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411	
240-260-4	1,6-Bis(2,3-epoxypropoxy)hexan	20 - 25 %
16096-31-4	Xi - Irritant R36-38-43-52-53	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412	

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Change contaminated clothing.

After inhalation

Following inhalation: Move victim to fresh air. Consult physician. If victim is at risk of losing consciousness, position and transport on their side. If breathing is irregular or stopped give artificial respiration.

After contact with skin

After contact with skin, wash immediately with soap and plenty of water.
If skin becomes irritated, seek medical treatment.

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. If the patient is likely to become unconscious, place and transport in stable sideways position.

After contact with eyes

After contact with eye rinse immediately with lot of water at least 5 minutes with open eyelid.
Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink large quantities of water. Consult physician. Do not induce vomiting. Move a vomiting patient lying on his back into a stable position on his side.

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

No data available

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

No special measures are necessary.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

All conventional extinguishing agents are suitable.

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Unsuitable extinguishing media

No special measures necessary

5.2. Special hazards arising from the substance or mixture

In case of fire may form: Carbon monoxide. Under certain conditions traces of toxic substances cannot be ruled out, e.g.: Chlorhydric gas (HCl).

5.3. Advice for firefighters

Wear a protective full body suit. Wear breathing apparatus with own air supply.

Additional information

Contaminated fire-fighting water must be collected separately. Contaminated fire-fighting water must not get into the sewerage network. Fire residue and contaminated fire-fighting water must be disposed of in accordance with government regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment. Keep unprotected persons at a safe distance.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment. Do not allow to enter the soil or subsoil.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Dispose of contaminated material as § 13 waste.

6.4. Reference to other sections

No data available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide for sufficient ventilation and punctiform suction at critical points. Do not eat or drink during work.

Advice on protection against fire and explosion

No special measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Employ reliable measures to prevent the product from entering the soil. Keep only in the original container in a cool, well ventilated place. Keep opened receptacles upright to prevent leakage.

Further information on storage conditions

Keep in well sealed receptacles at a cool, dry location.

7.3. Specific end use(s)

not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Protective and hygiene measures

Take off immediately all contaminated clothing Avoid contact with skin and eyes. "Wash hands when done working with material; at breaks, lunch, shift changes, etc." Do not breathe in gases/vapours/aerosols.

Eye/face protection

Tightly sealed safety glasses. (EN 166)

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Hand protection

Wear protective gloves. (EN 374)
 Material: NBR (Nitrile rubber). Butyl rubber.
 Breakthrough time: See information supplied by the manufacturer.

Skin protection

Wear protective clothing. (EN 340)

Respiratory protection

Not necessary when the room is well ventilated. Keep respiratory equipment at hand.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: liquid
 Colour: light yellow
 Odour: characteristic

Test method

pH-Value: not determined

Changes in the physical state

Melting point: not determined
 Boiling point: > 200 °C DIN 53171
 Flash point: > 150 °C ISO 2719

Flammability

Solid: not determined
 Gas: not determined
 Lower explosion limits: not determined
 Upper explosion limits: not determined

Auto-ignition temperature

Solid: > 300 °C
 Gas: not determined
 Decomposition temperature: not determined

Oxidizing properties

not determined

Vapour pressure: 1 hPa
 (at 20 °C)

Density: not determined
 Water solubility: not determined

Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: 350-450 mPa·s ISO 9371
 (at 25 °C)

Viscosity / kinematic: not determined

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not applicable

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SECTION 10: Stability and reactivity

10.1. Reactivity

stable under normal conditions

10.2. Chemical stability

stable under normal conditions

10.3. Possibility of hazardous reactions

No dangerous reactions at a correct storage and handling.

10.4. Conditions to avoid

no decomposition when stored and handled properly

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

stable under normal conditions

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

oral During animal experiments no indications of reproductive toxicity were observed.

Acute toxicity, dermal

after inhalation: Acute toxicity, irritation of the skin and mucous mebrane, and mutagenic potential of the preparation assessed by the manufacturer on the basis of the data sheets available on the main components. Information gaps exist on some of the main individual components. However, according to the experience of the manufacturer, no dangers above and beyond those on the product label are to be expected.

Irritant effect on the eye, mild irritation to the skin (rabbit).

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)				
	oral	LD50 mg/kg	30,000	rat.	
	dermal	LD50 mg/kg	1,200	rat.	
9003-36-5	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-F-(epichlorhydrin)				
	oral	LD50 mg/kg	2,000	rat	
	dermal	LD50 mg/kg	2,000	rat	
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexan				
	oral	LD50 mg/kg	2,900	rat.	
	dermal	LD50 mg/kg	2,000	rat.	

Irritation and corrosivity

none / none

Sensitising effects

none / none

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Specific effects in experiment on an animal

LD/LC50: 25068-38-6 Bisphenol A-epichlorohydrin resin mw<= 700
 oral: 11.400 mg/kg (rat) LD50
 dermal: >2.000 mg/kg (rabbit) LD50

Additional information on tests

No damaging effects when the product is handled properly.

SECTION 12: Ecological information**12.1. Toxicity**

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	h	Species	Source
25068-38-6	epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)					
	Acute fish toxicity	LC50	1,3 mg/l	96	Oncorhynchus mykiss	
	Acute algae toxicity	ErC50	> 11 mg/l	72	algae	
	Acute crustacea toxicity	EC50	2,1 mg/l	48	Daphnia	
16096-31-4	1,6-Bis(2,3-epoxypropoxy)hexan					
	Acute fish toxicity	LC50	30 mg/l	96	Oncorhynchus mykiss	
	Acute crustacea toxicity	EC50	67 mg/l	48		

12.2. Persistence and degradability

Product is biodegradable with difficulty.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

not applicable

12.6. Other adverse effects

none / none

Further information

Do not let the product enter the groundwater, open water, or the sewerage system.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable local, state, and federal regulations. e.g. transfer to a suitable incineration plant Waste key numbers are assigned according to the European Waste Catalogue (EWC) depending on the sector and process type.

Contaminated packaging

Dispose of waste according to applicable local, state, and federal regulations.

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number:**

UN3082

14.2. UN proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. Transport hazard class(es):

9

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14.4. Packing group:

III

Hazard label:

9



Classification code:

M6

Special Provisions:

274 335 601

Limited quantity:

5 L

Transport category:

3

Hazard No:

90

Tunnel restriction code:

E

Other applicable information (land transport)

Beförderungskategorie 3

Tunnelbeschränkungscode E

Special provisions: 274 335 601

E1

: 3

Marine transport (IMDG)

14.1. UN number:

3082

14.2. UN proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Epoxidderivate)

14.3. Transport hazard class(es):

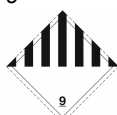
9

14.4. Packing group:

III

Hazard label:

9



Marine pollutant:

yes

Limited quantity:

5 L

EmS:

F-A, S-F

Other applicable information (marine transport)

Special provisions: 274, 909, 944

E1

Air transport (ICAO)

14.1. UN number:

3082

14.2. UN proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Epoxidderivate)

14.3. Transport hazard class(es):

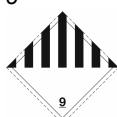
9

14.4. Packing group:

III

Hazard label:

9



Limited quantity Passenger:

30 kg G

IATA-packing instructions - Passenger:

914

IATA-max. quantity - Passenger:

450 L

IATA-packing instructions - Cargo:

914

IATA-max. quantity - Cargo:

450 L

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Other applicable information (air transport)

E1

: Y914

Special provisions: A97 A158

14.5. Environmental hazards

Dangerous for the environment: yes

**14.6. Special precautions for user**

not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): 2 - water contaminating

Additional information

APME document: "Epoxidharze und Härter (Toxikologie, Arbeitssicherheit, Umwelt)" ("Epoxy resins and hardeners (toxicology, work safety, environment)")

BG code of practice: M023 ("Polyester and epoxy resins") (ZH 1/301)

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Full text of R phrases referred to under Sections 2 and 3**

36	Irritating to eyes.
36/38	Irritating to eyes and skin.
38	Irritating to skin.
43	May cause sensitisation by skin contact.
51	Toxic to aquatic organisms.
52	Harmful to aquatic organisms.
53	May cause long-term adverse effects in the aquatic environment.

Full text of H statements referred to under Sections 2 and 3

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

All information, recommendations, and advice on the part of R&G Faserverbundwerkstoffe GmbH are published to the best of our knowledge and belief. They are noncommittal and contain neither explicit nor tacit assurance or warranty of particular properties. The values specified for properties are typical figures. Recommendations or advice serve to describe our products and possible applications in a general or exemplary, but not specifically individual manner. In the course of the constant technical advancement and improvement of our products there may be changes to the characteristic values, copy, and diagrams; no specific reference is made to any such change. Owing to our products' wide and highly diverse range of potential applications far beyond any of our attempts to analyse, the customer alone is responsible for examining our products' suitability for the respective processes and purposes and their respective processibility. All and any protective rights and the applicable laws,

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)