

RCT CR-N

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

1.1. Product identifier

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

Use of the substance/mixture

Concrete surface retarder

1.3. Details of the supplier providing the safety data sheet

Company name: Reisacher Chemie & Technik GmbH
Street: Hermann-Krum-Str. 7
Place: 88319 Aitrach (Germany)
Phone: +49 7565 942687 - 0 Telefax: +49 7565 942687 - 90
E-Mail: info@rct-germany.de
Contact person: Dr. Rockermaier
E-mail: m.rockermaier@rct-germany.de
Homepage: www.rct-germany.de
Informing department: Laboratory

1.4. Emergency phone number:

+49 7565 942687 - 0

The emergency number is only available on weekdays (Mon-Fri) from 8:30 to 16:00 (CET).

SECTION 2: Possible hazards

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard Categories:

Flammable Liquids: Flamm. Fl. 2

Aspiration hazard: Asp. 1

Serious eye damage/eye irritation: Eye irrit. 2

Specific target organ toxicity (single exposure): STOT inc. 3

Hazardous to the aquatic environment: Aqu. chron. 3

Hazard statements:

Highly flammable liquid and vapor.

May be fatal if swallowed and enters airways.

Causes severe eye irritation.

May cause drowsiness and dizziness.

Harmful to aquatic organisms, with long lasting effects.

2.2. Labeling elements:

Hazard-determining component(s) for labeling

Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds

2,3-Dihydroxybutanedioic acid

Signal word: Danger

Pictograms:



Hazard statements:

H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H319 Causes severe eye irritation.
H336 May cause drowsiness and dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.
P261 Avoid breathing gas/mist/vapour.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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P273 Avoid release to the environment.
P301+P310 IF INFECTED: Call a POISON CENTER/doctor immediately.
P331 DO NOT induce vomiting.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove any contact lenses if possible. Continue to rinse.

Special labeling of certain mixtures

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Vapors may form an explosive mixture with air.

SECTION 3: Composition/Information on ingredients

3.1. Mixtures

Chemical characterization

Mixture of organic acids, containing solvents

Hazardous ingredients

EC-No.	Designation			Proportion
CAS-No.	EC-No.	Index-No.	REACH-No.	
GHS-Classification				
64742-49-0	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds			2,5 – 25%
	920-750-0	649-328-00-1	01-2119473851-33	
	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066			
64742-49-0	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics			2,5 - 25 %
	927-241-2	649-328-00-1	01-2119471843-32	
	Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 3; H226 H336 H304 H412 EUH066			
77-92-9	2-hydroxy-1,2,3-propane tricarboxylic acid			5 - 10 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2; H319			
87-69-4	2,3-Dihydroxybutanedioic acid			5 - 10 %
	201-766-0		01-2119537204-47	
	Eye Dam. 1; H318			

Wording of H- and EUH-phrases: see section 16.

Specific concentration limit, M-factors and ATE

CAS-No.	Designation	Proportion
EC No.	Specific concentration limits, M-factors and ATE	
64742-49-0	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds	2,5 – 25%
920-750-0	inhalation: LC50 = 23.3 mg/l (vapors); dermal: LD50 = > 2800 mg/kg; oral: LD50 = > 5000 mg/kg	
64742-49-0	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics	2,5 - 25 %
927-241-2	inhalation: LC50 = > 4951 mg/l (vapors); dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 5000 mg/kg	
77-92-9	2-hydroxy-1,2,3-propane tricarboxylic acid	5 - 10 %
201-069-1	oral: LD50 = 5400 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Remove the affected person from the danger zone. First aiders: Ensure self-protection!
Change soiled, saturated clothing. Do not leave affected person unattended.

After inhalation

Remove affected person to fresh air and keep warm and calm.
Seek medical advice if symptoms occur or in case of doubt.
In case of danger of unconsciousness, position and transport in stable lateral position.

After contact with skin

After contact with skin, wash immediately with plenty of soap and water.
In case of skin reactions, seek medical advice.

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After contact with eyes

Immediately rinse cautiously and thoroughly with eye wash or with water.
Consult an ophthalmologist.

After ingestion

Aspiration hazard. If swallowed, rinse mouth with water (only if victim is conscious).
Do NOT induce vomiting.
Call a doctor immediately.

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

The following symptoms may occur: Headache, cough, nausea, dizziness, impaired consciousness,
Difficulty breathing, pulmonary edema.

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

Symptomatic treatment.
Symptoms may not appear for many hours, therefore medical monitoring at least until 48
hours after the accident.

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, water mist, carbon dioxide (CO₂), extinguishing powder

Unsuitable extinguishing agents

Full water jet

5.2. Special hazards arising from the substance or mixture

Flammable. Vapors may form explosive mixtures with air.
In case of fire may form: Carbon dioxide (CO₂), carbon monoxide (CO). In case of combustion strong
development of soot. Vapors are heavier than air. Re-ignition possible at great distance.

5.3. Advice for fire fighting

Wear self-contained breathing apparatus and chemical protective suit. Full protective suit.
Use water spray to protect persons and to cool containers in the danger area.
Knock down gases/vapors/mist with water spray. Collect contaminated extinguishing water separately.
Do not allow to enter sewage system or bodies of water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/vapor. Avoid contact with skin, eyes and
clothing. Use personal protective equipment.

6.2. Environmental precautions

Do not allow to enter drains or water courses. Do not allow to enter subsoil/soil.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid binders, universal binders).
Handle the absorbed material according to the Disposal section.

6.4. Reference to other sections

Safe handling: see section 7
Personal protective equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Protective measures for safe handling

Precautions for safe handling

Ensure adequate ventilation. Do not breathe mist/vapor/aerosol. Avoid contact with skin, eyes and clothing.
avoid. Use personal protective equipment.

Advice on protection against fire and explosion

Keep away from sources of ignition - Do not smoke. Take measures against electrostatic charges. Vapors
may form explosive mixtures with air.

Information on general hygiene measures at the workplace

Change soiled, saturated clothing. Draw up a skin protection plan and follow it!

Wash hands before breaks and at the end of work. Do not eat or drink while working.

Further handling information:

Further information: See section 8.

7.2. Conditions for safe storage taking into account incompatibilities

Requirements for storage rooms and containers

Keep container tightly closed and store in a cool, well-ventilated place. The floor should be tight, jointless and non-absorbent.

Do not empty containers under pressure.

Information on storage together

Do not store together with: Pyrophoric or self-heating hazardous materials, oxidizing agents.

Further information on storage conditions

Keep away from food, beverages and animal feed.

Storage class according to TRGS 510:

3 - Flammable liquids.

7.3. Specific end use

Concrete surface retarder

SECTION 8: Exposure controls/personal protection

8.1. Parameters to be monitored

Occupational exposure limits

CAS-No.	Designation	ppm	mg/m ³	F/m ³	Peak Ref.	Type
87-69-4	(+)-Tartaric acid		2 E		2 (I)	
112-07-2	Citric acid		2 E		2 (I)	

DNEL /DMEL values

CAS-No.	Designation	Exposure route	Effect	Value
64742-49-0	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds			
	Worker DNEL, long-term	inhalation	systemic	2035 mg/m ³
	Worker DNEL, long-term	dermal	systemic	773 mg/kg KG/d
	Consumer DNEL, long-term	inhalation	systemic	608 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	699 mg/kg KG/d
	Consumer DNEL, long-term	oral	systemic	699 mg/kg KG/d
64742-49-0	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics			
	Worker DNEL, long-term	inhalation	systemic	871 mg/m ³
	Worker DNEL, long-term	dermal	systemic	77 mg/kg KG/d
	Consumer DNEL, long-term	inhalation	systemic	185 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	46 mg/kg KG/d
	Consumer DNEL, long-term	oral	systemic	46 mg/kg KG/d
87-69-4	2,3-Dihydroxybutanedioic acid			
	Worker DNEL, long-term	inhalation	systemic	5,2 mg/m ³
	Worker DNEL, long-term	dermal	systemic	2,9 mg/kg KG/d
	Consumer DNEL, long-term	inhalation	systemic	1,3 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	1,5 mg/kg KG/d
	Consumer DNEL, long-term	oral	systemic	8,1 mg/kg KG/d

PNEC values

CAS-No.	Designation	Value
	Environmental compartment	
77-92-9	2-Hydroxy-1,2,3-propanetricarboxylic acid	
	Fresh water	0,44 mg/l
	Seawater	0,044 mg/l
	Freshwater sediment	34,6 mg/kg
	Marine sediment	3,46 mg/kg
	Microorganisms in sewage treatment plants	1000 mg/l

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Soil		33,1 mg/kg
87-69-4	2,3-Dihydroxybutanedioic acid	
Fresh water		0,3125 mg/l
Fresh water (intermittent release)		0,514 mg/l
Seawater		0,3125 mg/kg
Freshwater sediment		1,141 mg/kg
Marine sediment		1,141 mg/kg
Microorganisms in sewage treatment plants		10 mg/l
Soil		0,0449 mg/kg

8.2. Exposure controls and monitoring



Suitable technical control equipment

Ensure adequate ventilation. If possible, use devices with local exhaust ventilation for open handling.

Eye/face protection

Tight-fitting safety goggles. (DIN EN 166).

Hand protection

Suitable glove type Gauntlet gloves, acid-resistant. (EN ISO 374)

Suitable material:

- NBR (nitrile rubber): material thickness: 0.35 mm, breakthrough time: > 480 min.

The design of chemical protective gloves must be selected specifically for the workplace, depending on the concentration and quantity of hazardous substances.

Body protection

Wear antistatic shoes and work clothes.

Respiratory protection

If technical extraction or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Suitable respiratory protection: Filtering half mask (DIN EN 149), Filter: AX2

Environmental exposure controls and monitoring

Do not allow to enter drains or water courses. Do not allow to enter underground/soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:		liquid
Color:		see label
Odor:		of: Hydrocarbons, aliphatic
Odor threshold:		no information available
Melting point/Freezing point:		not determined
Boiling point or initial boiling point and boiling range:		105 °C
Flash point:		> 10 °C
Solid/Liquid:		not applicable
Gas:		not applicable
Explosion hazards		Vapors may form explosive mixtures with air.
Lower explosion limit:		0.6 % by volume
Upper explosion limit:		7.0 % by volume
Ignition temperature:		> 200 °C
Auto-ignition temperature solid:		not applicable
Auto-ignition temperature gas:		not applicable
Decomposition temperature:		not determined
Oxidizing properties		non-flammable (oxidizing)
pH value:		not applicable
Dynamic viscosity:		not determined
Flow time:	(at 20 °C)	30 s 4 DIN 53211
Solubility in water:	(at 21 °C)	not miscible

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Solubility in other solvents		not determined
Partition coefficient		not determined
Vapor pressure:		not determined
Density	(at 21 °C):	1.1 g/cm ³ ISO 2811
Relative vapor density:		not determined

9.2 Other information
Solvent content: 40
Solids content: not applicable

9.2. Other information

Solvent content:	40 %
Solids content:	not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable, risk of ignition

10.2. Chemical stability

The product is stable when stored at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Vapors may form an explosive mixture with air.

10.4. Conditions to avoid

Protect from heat. Protect against direct sunlight. Take measures against electrostatic
Take measures against electrostatic charges.

10.5. Incompatible materials

Oxidizing agent, strong.

10.6. Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution.

Symptoms of poisoning may not appear until many hours after exposure.

Acute toxicity

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

CAS-No.	Designation				
	Exposure Route	Dose	Species	Source	Method
64742-49-0	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds				
	oral	LD50 > 5000 mg/kg	rat		
	dermal	LD50 > 2800 mg/kg	rabbit		
	Inhalative (4 h) Vapor	LC50 23,3 mg/l	mouse		
64742-49-0	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics				
	oral	LD50 > 5000 mg/kg	rat		
	dermal	LD50 > 5000 mg/kg	rabbit		
	Inhalative (4 h) Vapor	LC50 > 4951 mg/l	mouse		
77-92-9	2-hydroxy-1,2,3-propanetricarboxylic acid				
	oral	LD50 > 5400 mg/kg	mouse	MSDS	

Irritant and corrosive effects

Irritant effect on the eye: Causes severe eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitizing effects

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

Carcinogenic, mutagenic and toxic for reproduction effects

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

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Specific target organ toxicity (single exposure)

May cause drowsiness and dizziness. (Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds; hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics).

Serious effects after repeated or prolonged exposure.

Repeated contact may cause brittle or cracked skin.

Aspiration hazard

May be fatal if swallowed and enters airways.

11.2. Information on other hazards

No further relevant information available.

General remarks

Classification of mixtures and assessment method used according to Regulation (EC) No 1272/2008 [CLP].

There are no data for the preparation/mixture itself.

SECTION 12: Environmental information

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

No data available for the mixture. The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the individual components (see section 3).

CAS-No.	Designation		Dose	[h] [d]	Species	Source	Method
77-92-9	2-Hydroxy-1,2,3-propanetricarboxylic acid						
Acute fish toxicity	LC50	1516 mg/l	96 h		Lepomis macrochirus	ECHA	OECD 203
Acute crustacean toxicity	EC50	160 mg/l	48 h			GESTIS	

12.2. Persistence and degradability

The organic part of the product is biodegradable.

12.3. Bioaccumulative potential

No information is available.

Partition coefficient n-octanol/water

CAS-No.	Designation	Log Pow
77-92-9	2-Hydroxy-1,2,3-propanetricarboxylic acid	-1,72
87-69-4	2,3-Dihydroxybutanedioic acid	-1,00

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The ingredients in this preparation do not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

Further information

Classification of mixtures and assessment method used according to Regulation (EC) No. 1272/2008 [CLP] No data are available for the mixture. The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the individual components (see section 3).

SECTION 13: Disposal considerations

13.1. Waste treatment procedures

Recommendation

Do not allow to enter drains or water courses. Do not allow to enter subsoil/soil.

Dispose of in accordance with official regulations.

Waste code product

080111 Wastes from MFSU of coatings (paints, varnishes, enamels), adhesives, sealants and printing inks; wastes from MFSU and removal of paints and varnishes; waste paints and varnishes containing organic solvents or other dangerous substances. Classified as hazardous waste.

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Waste code uncleaned packaging

150104 Packaging waste, absorbents, wipes, filter materials and protective clothing (n.e.c.); packaging (including separately collected municipal packaging waste); metal packaging.

Disposal of uncleaned packaging and recommended cleaning agents.

Non-contaminated and empty packaging can be recycled. Contaminated packaging must be treated like the substance.
Non-contaminated and empty packaging can be recycled.

SECTION 14: Transport information

The product must be transported in accordance with ADR regulations for road transport, RID regulations for rail transport, IMDG regulations for sea transport, ICAO/IATA regulations for air transport.

Land transport (ADR/RID)

UN number	UN 1263
UN proper shipping name:	PAINT ACCESSORIES
Transport hazard class:	3
Packing group:	II
Hazard label:	3
Classification Code:	F1
Special regulations:	163 367 640D 650
Limited quantity (LQ):	5 L
Transport category:	2
Hazard number:	33
Tunnel restriction code:	D/E
Exempted quantity:	E2

Inland waterway transport (ADN)

UN number	UN 1263
UN proper shipping name:	PAINT ACCESSORIES
Transport hazard class:	3
Packing group:	II
Hazard label:	3
Classification Code:	F1
Special regulations:	163 367 640D 650
Limited quantity (LQ):	5 L
Exempted quantity:	E2

Marine transport (IMDG)

UN number	UN 1263
UN proper shipping name:	PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base)
Transport hazard class:	3
Packing group:	II
Hazard label:	3
Marine pollutant:	no
Special regulations:	163, 367
Limited Quantity (LQ):	5 L
EmS:	F-E, S-E
Exempted quantity:	E2
Separation group:	not applicable

Air transport (ICAO)

UN number:	UN 1263
UN proper shipping name:	PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base)
Transport hazard classes:	3
Packing group:	II
Hazard label:	3
Special regulations:	A3 A72 A192
Limited Quantity (LQ) Passenger:	1 L

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Passenger LQ:	Y341
Exempted quantity:	E2
IATA packing instruction - Passenger:	353
IATA Maximum Quantity - Passenger:	5 L
IATA packing instruction - Cargo:	364
IATA Maximum Quantity - Cargo:	60 L

14.5. Environmental hazards

DANGEROUS FOR THE ENVIRONMENT: no

14.6. Special precautions for user

Keep away from food, drink and animal feeding stuffs.

14.7. Bulk transport according to Annex II of the MARPOL Convention and according to the IBC Code

not applicable

SECTION 15: Legislation

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

EU regulations

Restrictions on use (REACH, Annex XVII):	Entry 3.
Information on VOC Directive 2004/42/EC:	VOC value: 440 g/L (40 %)
Subcategory according to 2004/42/EC:	One-component special coatings - solvent-based coating materials, VOC limit value: 500 g/l

National regulations

Employment restriction:	Observe employment restrictions for young people (§ 22 JArbSchG)
Water hazard class:	1 - slightly hazardous to water
Status:	Classification of mixtures according to Annex 1, No. 5 AwSV

Additional information

Information of the Employer's Liability Insurance Association (DGUV-Information):
213-072 "Solvents",
213-080 "Occupational safety measures for activities involving hazardous substances".

15.2. Chemical safety assessment

A Chemical Safety Assessment has been performed for the following substances in this mixture:
Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic compounds.
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics
2-hydroxy-1,2,3-propane tricarboxylic acid
2,3-dihydroxybutanedioic acid

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
ATE: acute toxicity estimates
ECHA: european chemicals agency
(<http://echa.europa.eu/information-on-chemicals>)
GESTIS: Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung
(<http://dguv.de/ifa/GESTIS/GESTIS-Stoffdatenbank/index.jsp>)
MSDS:
The data of the hazardous ingredients were taken from the latest safety data sheet of the supplier.

Classification of mixtures and assessment method used according to Regulation (EC) No 1272/2008 [CLP].

Classification	Classification method
Flam. Liq. 2; H225	Based on test data
Asp. Tox. 1; H304	Calculation method
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method
Aquatic Chronic 3; H412	Calculation method

Wording of H- and EUH-phrases (number and full text) from section 3

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H318	Causes serious eye damage.
H319	Causes severe eye irritation.
H336	May cause drowsiness and dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further information

The data of the hazardous ingredients were taken from the latest safety data sheet of the supplier. The information is based on our present knowledge, but does not constitute a guarantee of product properties and does not establish a contractual legal relationship.