

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Markey R-CZ 44

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

Use of the substance/mixture : Fertilizer

1.3. Details of the supplier of the safety data sheet

MarVista Resources
745 North Ave.
Corcoran, Ca. 93212 - USA
T 559-992-4535

1.4. Emergency telephone number

Emergency number : 24 Hour Emergency Response Chemtrec: 1-800-262-8200

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Acute toxicity (oral) H302
Category 4

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
Contains : ammonia, 10%<=conc<25%, aqueous solutions; copper(II) sulfate, pentahydrate
Hazard statements (GHS-US) : H302 - Harmful if swallowed
Precautionary statements (GHS-US) : P264 - Wash skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P301+P312 - If swallowed: Call a doctor, a POISON CENTER (800-222-1222) if you feel unwell
P330 - Rinse mouth
P501 - Dispose of contents/container to comply with local, state, and federal regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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Name	Product identifier	%	Classification (GHS-US)
Ammonium Citrate Tribasic	(CAS No) 3458-72-8	10 - 20	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
ammonia, 10%<=conc<25%, aqueous solutions	(CAS No) 1336-21-6	10 - 20	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Aquatic Acute 1, H400
copper(II) sulfate, pentahydrate	(CAS No) 7758-99-8	10 - 20	Acute Tox. 3 (Oral), H301 Aquatic Acute 2, H401

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Rinse mouth. . Get medical advice/attention if you feel unwell.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after inhalation : May cause slight irritation.
- Symptoms/injuries after skin contact : May cause slight irritation to the skin.
- Symptoms/injuries after eye contact : May cause slight irritation.
- Symptoms/injuries after ingestion : May cause gastrointestinal discomfort.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

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Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Storage area : Store in a cool, dry place.
Special rules on packaging : correctly labelled. Meet any applicable legal requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ammonium Citrate Tribasic (3458-72-8)

Not applicable

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

ACGIH	ACGIH TWA (ppm)	25 ppm
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ACGIH	ACGIH STEL (ppm)	25 ppm
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copper(II) sulfate, pentahydrate (7758-99-8)

NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
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8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Hand protection : Protective gloves.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Mixture contains one or more component(s) which have the following colour(s):
Colourless-white Unpurified: grey-brown White Colourless Blue
Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour(s):
Odourless Irritating/pungent odour
Odor threshold : No data available
pH : 8.3
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Vapor pressure : No data available
Relative density : No data available
Relative vapor density at 20 °C : No data available
Specific gravity / density : 1.25 g/ml
Solubility : No data available
Log Pow : No data available
Auto-ignition temperature : No data available

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Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

RCZ 44	
ATE US (oral)	889.833 mg/kg body weight
ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)	
LD50 oral rat	350 mg/kg
ATE US (oral)	350.000 mg/kg body weight
copper(II) sulfate, pentahydrate (7758-99-8)	
LD50 oral rat	300 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 482 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	300.000 mg/kg body weight

Skin corrosion/irritation : Not classified.

pH: 8.3

Serious eye damage/irritation : Not classified

pH: 8.3

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause slight irritation.

Symptoms/injuries after skin contact : May cause slight irritation to the skin.

Symptoms/injuries after eye contact : May cause slight irritation.

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Symptoms/injuries after ingestion : May cause gastrointestinal discomfort.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

copper(II) sulfate, pentahydrate (7758-99-8)	
LC50 fish 1	1.5 mg/l (24 h; Lepomis macrochirus; Toxicity test)
EC50 Daphnia 1	0.109 - 0.798 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	0.17 mg/l (24 h; Salmo gairdneri (Oncorhynchus mykiss); Anhydrous form)
TLM fish 1	3.8 ppm 24 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	0.01 - 0.28,72 h; Selenastrum capricornutum; Anhydrous form
Threshold limit algae 2	0.368 mg/l (72 h; Pseudokirchneriella subcapitata; Anhydrous form)

12.2. Persistence and degradability

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)	
Persistence and degradability	Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No (test)data on mobility of the components available. Ozonation in the air.

copper(II) sulfate, pentahydrate (7758-99-8)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)	
Log Pow	-1.14
Bioaccumulative potential	Bioaccumulation: not applicable.

copper(II) sulfate, pentahydrate (7758-99-8)	
Bioaccumulative potential	Bioaccumable.

12.4. Mobility in soil

copper(II) sulfate, pentahydrate (7758-99-8)	
Ecology - soil	Toxic to flora.

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Prevent liquid from entering sewers, watercourses, underground or low areas.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

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Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Ammonium Citrate Tribasic (3458-72-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

ammonia, 10%≤conc<25%, aqueous solutions (1336-21-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ

1000 lb

copper(II) sulfate, pentahydrate (7758-99-8)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

ammonia, 10%≤conc<25%, aqueous solutions (1336-21-6)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H320	Causes eye irritation
H400	Very toxic to aquatic life
H401	Toxic to aquatic life

NFPA health hazard

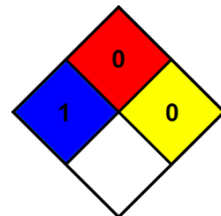
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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