RAG100 Restor-A-Gel Steel

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : RAG100 Restor-A-Gel Steel

Product code : RAG100

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemical

1.3. Supplier

SIRCHIE
100 Hunter Place
Youngsville, NC 27596 - USA
T 919-554-2244; 800-356-7311 - F 919-554-2266; 800-899-8181
http://www.sirchie.com

1.4. Emergency telephone number

Emergency number : 1.800.424.9300 (USA) +1-703-527-3887 (INTL)
CHEMTREC: 1.800.424.9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapour
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
hydrochloric acid	(CAS-No.) 7647-01-0	42	Skin Corr. 1A, H314
ethanol	(CAS-No.) 64-17-5	26	Flam. Liq. 2, H225
silicon dioxide, amorphous	(CAS-No.) 7631-86-9	< 2.5	Not classified
copper(II)chloride	(CAS-No.) 7447-39-4	< 1.6	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

No additional information available

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

No additional information available

5.2. Specific hazards arising from the chemical

Reactivity : Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

copper(II)chloride (7447-39-4)		
Not applicable		

ethanol (64-17-5)		
ACGIH	ACGIH STEL (ppm)	1000 ppm

silicon dioxide, amorphous (7631-86-9)		
Not applicable		

hydrochloric acid (7647-01-0)		
ACGIH	ACGIH TWA (mg/m³)	2.98 mg/m³
ACGIH	ACGIH TWA (ppm)	2 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	7 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	5 ppm
IDLH	US IDLH (ppm)	50 ppm
NIOSH	NIOSH REL (TWA) (mg/m³)	7 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	5 ppm

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gas mask. Gloves. Safety glasses.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Green
Odor	:	Irritating/pungent odour
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
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
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	Insoluble in water.

Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive vapors.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5. Incompatible materials

metals. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

copper(II)chloride (7447-39-4)	
LD50 oral rat	584 mg/kg body weight (Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male, Read-across, Dermal)
ATE US (oral)	100 mg/kg body weight

ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg body weight (Rabbit, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	125 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

silicon dioxide, amorphous (7631-86-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Dermal)

Skin corrosion/irritation	:	Causes severe skin burns and eye damage.
Serious eye damage/irritation	:	Eye damage, category 1, implicit
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified

ethanol (64-17-5)	
Additional information	Ethyl alcohol (200 Proof) has been shown to cause cancer in Human and Animals when ingested in volume over time. There is no link to cancer in limited exposure scenarios.

Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Viscosity, kinematic	:	No data available

SECTION 12: Ecological information

12.1. Toxicity

copper(II)chloride (7447-39-4)	
LC50 fish 1	0.39 mg/l (Other, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	0.026 mg/l (Other, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Soft water)
LC50 fish 2	0.0384 mg/l (Other, 96 h, Pimephales promelas, Flow-through system, Fresh water, Read-across)
EC50 Daphnia 2	0.0926 - 1.213 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)

ethanol (64-17-5)	
LC50 fish 1	15300 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)

silicon dioxide, amorphous (7631-86-9)	
LC50 fish 1	> 10000 mg/l (96 h, Brachydanio rerio, Literature)
EC50 Daphnia 1	> 10000 mg/l (24 h, Daphnia magna, Literature)

12.2. Persistence and degradability

copper(II)chloride (7447-39-4)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

ethanol (64-17-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O_2 /g substance
Chemical oxygen demand (COD)	1.7 g O_2 /g substance
ThOD	2.1 g O_2 /g substance
BOD (% of ThOD)	0.43

silicon dioxide, amorphous (7631-86-9)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

hydrochloric acid (7647-01-0)	
Persistence and degradability	Biodegradability: not applicable.

12.3. Bioaccumulative potential

copper(II)chloride (7447-39-4)	
Bioaccumulative potential	No bioaccumulation data available.

ethanol (64-17-5)	
BCF fish 1	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

silicon dioxide, amorphous (7631-86-9)	
Bioaccumulative potential	Not bioaccumulative.

hydrochloric acid (7647-01-0)	
Bioaccumulative potential	Does not contain bioaccumulative component(s).

12.4. Mobility in soil

copper(II)chloride (7447-39-4)	
Surface tension	72.7 N/m (21 °C, 1.01 g/l, EU Method A.6: Water solubility)
Ecology - soil	Adsorbs into the soil.

ethanol (64-17-5)	
Surface tension	22.31 mN/m (20 °C, 100 %)
Log Koc	0.2 (log Koc, Experimental value)
Ecology - soil	Highly mobile in soil.

silicon dioxide, amorphous (7631-86-9)	
Ecology - soil	No (test)data on mobility of the substance available.

hydrochloric acid (7647-01-0)	
Ecology - soil	No (test)data on mobility of the components available. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

No additional information available

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1789 Hydrochloric Acid (Corrosive), 8, III
UN-No.(DOT) : UN1789
Proper Shipping Name (DOT) : Hydrochloric Acid
Corrosive
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 8 - Corrosive

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Air transport

Transport document description (IATA) : UN UN1789 Hydrochloric acid, 8, III, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA) : UN1789
Proper Shipping Name (IATA) : Hydrochloric acid
Class (IATA) : 8 - Corrosives
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

RAG100 Restor-A-Gel Steel
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

RAG100 Restor-A-Gel Steel
Listed on ELINCS (European List of Notified Chemical Substances)

National regulations

RAG100 Restor-A-Gel Steel
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

RAG100 Restor-A-Gel Steel	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

SECTION 16: Other information

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Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

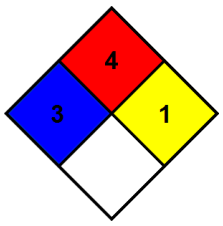
Full text of H-phrases:

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating		
Health	:	3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	:	4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)
Physical	:	1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
Personal protection	:	G G - Safety glasses, Gloves, Vapor respirator

SDS US (GHS HazCom 2012)

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