



RAG1001 Restor-A-Gel Steel 30ml

Safety Data Sheet

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

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

1.1. Product identifier

Product form : Mixture
Product name : RAG1001 Restor-A-Gel Steel 30ml
Product code : RAG1001

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

Use of the substance/mixture : Laboratory chemical

1.3. Details of the supplier of the safety data sheet

SIRCHIE Finger Print Laboratories
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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 2 H225
Skin Corr. 1B H314
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS05

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - 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/vapors/spray
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash ... thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
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/doctor/...
P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see ... on this label)
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use ... to extinguish

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P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to ...

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

Name	Product identifier	%	Classification (GHS-US)
hydrochloric acid	(CAS No) 7647-01-0	42	Skin Corr. 1B, H314 STOT SE 3, H335
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 H-phrases: 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, both acute and delayed

No additional information available

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

No additional information available

5.2. Special hazards arising from the substance or mixture

Reactivity : Corrosive vapors.

5.3. Advice for firefighters

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

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7.2. Conditions for safe storage, including any incompatibilities

No additional information available

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

RAG1001 Restor-A-Gel Steel 30ml		
ACGIH	Not applicable	
OSHA	Not applicable	
copper(II)chloride (7447-39-4)		
ACGIH	Not applicable	
OSHA	Not applicable	
ethanol (64-17-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
silicon dioxide, amorphous (7631-86-9)		
ACGIH	Not applicable	
OSHA	Not applicable	
hydrochloric acid (7647-01-0)		
ACGIH	ACGIH Ceiling (ppm)	2 ppm
OSHA	Not applicable	

8.2. Exposure controls

Personal protective equipment : Gas mask. Gloves. Safety glasses.



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
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

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Relative vapor density at 20 °C	: No data available
Solubility	: Insoluble in water. Water: Solubility in water of component(s) of the mixture : •: 43 g/100ml •: •: 0.15 g/100ml •:
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
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

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 : Not classified

copper(II)chloride (7447-39-4)	
LD50 oral rat	140 mg/kg body weight (Rat; Literature study; 584 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Read-across; OECD 402: Acute Dermal Toxicity; 1224 mg/kg bodyweight; Rat; Read-across; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	140.000 mg/kg body weight
ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
silicon dioxide, amorphous (7631-86-9)	
LD50 oral rat	> 10000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Not classified
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.
IARC group	1 - Carcinogenic to humans

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silicon dioxide, amorphous (7631-86-9)	
IARC group	3 - Not classifiable
hydrochloric acid (7647-01-0)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

copper(II)chloride (7447-39-4)	
LC50 fish 1	0.046 mg/l (96 h; Oncorhynchus kisutch; Soft water)
EC50 Daphnia 1	0.069 mg/l (48 h; Daphnia magna; Hard water)
LC50 fish 2	0.08 - 0.5 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Hard water)
EC50 Daphnia 2	0.026 mg/l (48 h; Daphnia magna; Soft water)
Threshold limit algae 1	7 mg/l (72 h; Chlorella vulgaris; Growth)
Threshold limit algae 2	0.085 mg/l (14 days; Selenastrum capricornutum; Cell numbers)
ethanol (64-17-5)	
LC50 fish 1	14200 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)
silicon dioxide, amorphous (7631-86-9)	
LC50 fish 1	> 10000 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 1	> 10000 mg/l (24 h; Daphnia magna)
Threshold limit algae 2	60 mg/l (72 h; Selenastrum capricornutum; Growth rate)
hydrochloric acid (7647-01-0)	
LC50 fish 1	282 mg/l (96 h; Gambusia affinis; Pure substance)
LC50 fish 2	862 mg/l (96 h; Leuciscus idus; Pure substance)
TLM fish 1	282 ppm (96 h; Gambusia affinis; Pure substance)

12.2. Persistence and degradability

copper(II)chloride (7447-39-4)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: 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
ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.70 g O ₂ /g substance
ThOD	2.10 g O ₂ /g substance
BOD (% of ThOD)	0.43 % ThOD

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silicon dioxide, amorphous (7631-86-9)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

hydrochloric acid (7647-01-0)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.

12.3. Bioaccumulative potential

copper(II)chloride (7447-39-4)	
BCF fish 1	290 (Pimephales promelas; Copper ion)
BCF other aquatic organisms 1	17700 (Corbicula sp.; Copper ion)
BCF other aquatic organisms 2	471 (148 h; Daphnia magna; Fresh weight)
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

ethanol (64-17-5)	
BCF fish 1	1 (72 h; Cyprinus carpio)
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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

hydrochloric acid (7647-01-0)	
Log Pow	0.3 (Literature)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)

hydrochloric acid (7647-01-0)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

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

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

Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : III - Minor Danger

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

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

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Listed on 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

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Listed on ELINCS (European List of Notified Chemical Substances)

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

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
Xn; R22
C; R34
Xi; R37
N; R50/53

Full text of R-phrases: see section 16

National regulations

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Listed on IARC (International Agency for Research on Cancer)

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15.3. US State regulations

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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

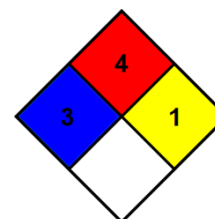
SECTION 16: Other information

- 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:

Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

- NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
- NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



- HMIS III 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)

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.