

Safety Data Sheet Reticulum Stain Kit (EU)

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

1.1 **Product identifier**

Product name Reticulum Stain Kit (EU)

Product number KT031

Brand Reticulum Stain Kit

Other means of identification

Kit Component	Volume	Storage
Potassium Permanganate Solution (1%)	125 ml	15-30°C
2. Potassium Metabisulfite Solution (3%)	125 ml	15-30°C
3. Ferric Ammonium Sulfate Solution (3%)	125 ml	15-30°C
4. Formalin Solution (20%)	125 ml	15-30°C
5. Gold Chloride Solution (0.1%)	125 ml	2-8°C
6. Sodium Thiosulfate Solution (5%)	125 ml	15-30°C
7. Nuclear Fast Red Solution	125 ml	15-30°C
8. Sodium Hydroxide Solution (3%)	125 ml	15-30°C
9. Silver Nitrate Solution (10%)	10 ml x 5 vials	2-8°C

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

In Vitro Diagnostic Use

1.3 Details of the supplier of the safety data sheet

Name Diagnostic Biosystems Address 6616 Owens Drive

Pleasanton CA 94588

USA

(888) 896-3350 Telephone

email customersupport@dbiosys.com

Emergency telephone number

(925) 484-3350 (9AM-6PM, Monday - Friday, Pacific Standard Time)

SECTION 2: Hazards identification

General hazard statement

For Professional Users Only

2.1 Classification of the substance or mixture

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

- Acute toxicity, dermal (chapter 3.1), Cat. 4, H312
- Acute toxicity, inhalation (chapter 3.1), Cat. 4, H332
- Acute toxicity, oral (chapter 3.1), Cat. 4, H302
- Carcinogenicity (chapter 3.6), Cat. 1B, H350
- Germ cell mutagenicity (chapter 3.5), Cat. 2, H341
- Serious eye damage/eye irritation (chapter 3.3), Cat. 1, H318
- Skin corrosion/irritation (chapter 3.2), Cat. 1B, H314
- Skin sensitizer (chapter 3.4), Cat. 1, H317

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

2.2 Label elements

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

Hazard pictograms







1. Exclamation mark; 2. Health hazard; 3. Corrosion

Signal word Danger

Ната	ard	sta	tem	ents
I Iaza	aı u	3La		CIILO

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer

Precautionary statements

P310

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P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse
	skin with water [or 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.

Immediately call a POISON CENTER/doctor.

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P330 Rinse mouth.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container to a licensed disposal company.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Component 1.

1. Potassium permanganate

Concentration <= 1 % (weight)

Other names / synonyms Permanganic acid (HMnO4), potassium salt;

EC no. 231-760-3 CAS no. 7722-64-7 Index no. 025-002-00-9

- Oxidizing solids (chapter 2.14), Cat. 2

- Reproductive toxicity (chapter 3.7), Cat. 2
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H272 May intensify fire; oxidizer H302 Harmful if swallowed

H361d

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

Component 2.

1. Potassium metabisulfite

Concentration <= 3 % (weight)

Other names / synonyms Dipotassium disulphite; Disulfurous acid, dipotassium salt;

CAS no. 16731-55-8

Component 3.

1. Iron (III) Ammonium Sulfate Dodecahydrate

Concentration <= 3 % (weight)
CAS no. 7783-83-7

Component 4. 1. Formaldehyde

Concentration <= 18 % (volume), 4

Other names / synonyms Formaldehyde (gas)

EC no. 200-001-8 CAS no. 50-00-0 Index no. 605-001-00-5

- Carcinogenicity (chapter 3.6), Cat. 1B

- Germ cell mutagenicity (chapter 3.5), Cat. 2

- Acute toxicity, inhalation (chapter 3.1), Cat. 3
- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 1B
- Sensitization skin (chapter 3.4), Cat. 1

H301 Toxic if swallowed

H311 Toxic in contact with skin

H314 Causes severe skin burns and eye damage

H317 May cause an allergic skin reaction

H331 Toxic if inhaled

H341 Suspected of causing genetic defects

H350 May cause cancer

SCLs/M-factors/ATEs STOT SE 3; H335: C ≥ 5 %

Skin Corr. 1B; H314: $C \ge 25 \%$ Skin Irrit. 2; H315: $5 \% \le C < 25 \%$ Eye Irrit. 2; H319: $5 \% \le C < 25 \%$ Skin Sens. 1; H317: $C \ge 0,2 \%$

2. Methyl alcohol

Concentration <= 3 % (volume)

Other names / synonyms CARBINOL; COLONIAL SPIRIT; COLUMBIAN SPIRIT; Methanol; METHYL

HYDROXIDE: METHYLALCOHOL: METHYLOL:

MONOHYDROXYMETHANE; NA 1230 (DOT); PYROXYLIC SPIRIT; RCRA WASTE NUMBER U154; UN 1230 (DOT); WOOD ALCOHOL; WOOD

NAPHTHA; WOOD SPIRIT

EC no. 200-659-6 CAS no. 67-56-1 Index no. 603-001-00-X

- Flammable liquids (chapter 2.6), Cat. 2

- Acute toxicity, inhalation (chapter 3.1), Cat. 3

- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

H225 Highly flammable liquid and vapor

H301 Toxic if swallowed

H311 Toxic in contact with skin

H331 Toxic if inhaled

H370 Causes damage to organs

SCLs/M-factors/ATEs

STOT SE 1; H370: C ≥ 10 %

STOT SE 2; H371: 3 % ≤ C < 10 %

Component 5.

1. Gold (III) chloride trihydrate

Concentration <= 0.1 % (weight) CAS no. 16961-25-4

Component 6.

1. Sodium thiosulfate

Concentration <= 5 % (weight)

Other names / synonyms Natrii thiosulfas; Sodium thiosulphate; Thiosulfuric acid (H2S2O3), disodium

salt; Thiosulfuric acid (H2S2O3), disodium salt, pentahydrate; Thiosulfuric

acid (H2S2O3), sodium salt (1:2)

CAS no. 7772-98-7

Component 7.

1. Ammonium sulfate

Concentration <= 5 % (weight)

Other names / synonyms Ammonium sulphate; Sulfuric acid diammonium salt

CAS no. 7783-20-2

2. Nuclear Fast Red

Concentration <= 0.2 % (weight)

Other names / synonyms 2-Anthracenesulfonic acid, 4-amino-9,10-dihydro-1,3-dihydroxy-9,10-dioxo-,

monosodium salt;

CAS no. 6409-77-4

3. SODIUM AZIDE

Concentration <= 0.1 % (weight)

Other names / synonyms Sodium azide (Na(N3))

EC no. 247-852-1 CAS no. 26628-22-8 Index no. 011-004-00-7

- Acute toxicity, dermal (chapter 3.1), Cat. 1

- Acute toxicity, inhalation (chapter 3.1), Cat. 2

- Acute toxicity, oral (chapter 3.1), Cat. 2

- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

Component 8.

1. Sodium hydroxide

Concentration <= 3 % (weight)

Other names / synonyms Caustic soda; Natrii hydroxidum; Sodium hydroxide ; Sodium hydroxide

(Na(OH));

EC no. 215-185-5 CAS no. 1310-73-2 Index no. 011-002-00-6

- Skin corrosion/irritation (chapter 3.2), Cat. 1A

H314 Causes severe skin burns and eye damage

SCLs/M-factors/ATEs Skin Corr. 1A; H314: C ≥ 5 %

Skin Corr. 1B; H314: $2 \% \le C < 5 \%$ Skin Irrit. 2; H315: $0,5 \% \le C < 2 \%$ Eye Irrit. 2; H319: $0,5 \% \le C < 2 \%$

Component 9

1. Silver nitrate

Concentration <= 10 % (weight)

Other names / synonyms Argenti nitras; Nitric acid silver(1++) salt;

EC no. 231-853-9 CAS no. 7761-88-8 Index no. 047-001-00-2

- Oxidizing solids (chapter 2.14), Cat. 2

- Skin corrosion/irritation (chapter 3.2), Cat. 1B

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H272 May intensify fire; oxidizer

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes Consult a physician. Show this safety data sheet to the doctor in attendance.

Following inhalation If breathed in, move person into fresh air. If not breathing, give artificial

respiration.

Do NOT induce vomiting. Never give anything by mouth to an unconscious

person. Rinse mouth with water. Consult a physician.

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Following skin contact Rinse with plenty of water. Get medical attention if irritation develops and

persists.

Following eye contact Rinse thoroughly with plenty of water for at least 15 minutes. Get medical

attention if symptoms occur.

Following ingestion Call a poison center or doctor if you feel unwell. If vomiting occurs naturally,

have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything

by mouth to an unconscious person.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset,

nausea, vomiting and diarrhea.

Self-protection of the first aider Ensure adequate ventilation. Use personal protective equipment. For

personal protection see section 8.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Methanol: Carbon oxides

SODIUM AZIDE: Sodium oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 1310-73-2

Sodium hydroxide

ACGIH (USA): (C) 2 mg/m3 TLV® inhalation; Cal/OSHA (USA): (C) 2 mg/m3 PEL inhalation; NIOSH (USA): (C) 2 mg/m3 REL inhalation; OSHA (USA): 2 mg/m3 PEL inhalation

CAS: 26628-22-8 (EC: 247-852-1)

Sodium azide

ACGIH: 0.29 mg/m3 (C); 0.1 ppm (C) hydrazoic acid vapor TLV® inhalation; NIOSH: 0.29 mg/m3 (C); 0.1 ppm (C) hydrazoic acid vapor REL-C inhalation

CAS: 50-00-0 (EC: 200-001-8)

Formaldehyde

; ; 0.75 ppm; ACGIH: 0.3 ppm PEL-C inhalation; NIOSH: 0.1 ppm PEL-C inhalation; 0.016 ppm PEL-TWA inhalation

CAS: 500-00-0 (EC: 200-001-8)

Formaldehyde

CAS: 67-56-1 (EC: 200-659-6)

Methyl alcohol

ACGIH: 200 ppm TLV® inhalation; 250 ppm (ST) TLV® inhalation; Cal/OSHA: 1000 ppm PEL-C inhalation; 250 ppm PEL-ST inhalation; 200 ppm PEL-TWA inhalation; NIOSH: 250 ppm PEL-ST inhalation; 200 ppm REL-TWA inhalation; OSHA: 200 ppm, 260 mg/m3 PEL-TWA inhalation

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Individual protection measures, such as personal protective equipment

Pictograms







Eye and face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards

No data available

Control banding approach

No data available.

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state Liquid
Appearance Variable
Colour Variable
Odour Odorless

Odour threshold No data available.

oH Variable

Melting point/freezing point

Boiling point or initial boiling point and boiling range
Flash point

Evaporation rate

Flammability

Lower and upper explosion limit/flammability limit

No data available.

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Vapor pressure No data available. Relative vapor density No data available. Density and/or relative density No data available. Solubility No data available. Partition coefficient n-octanol/water (log value) No data available. Auto-ignition temperature No data available. Decomposition temperature No data available. Kinematic viscosity No data available. Explosive properties No data available. Oxidizing properties No data available.

Particle characteristics

No data available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

No data available.

9.2.2 Other safety characteristics

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal use conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

None under normal use conditions.

10.4 Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

10.5 Incompatible materials

Methanol: Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

Sodium hydroxide: Caustic soda reacts with all the mineral acids to form the corresponding salts. It also reacts with weak-acid gases, such as hydrogen sulfide, sulfur dioxide, and carbon dioxide. Caustic soda reacts with amphoteric metals (Al, Zn, Sn) and their oxides to form complex anions such as AlO2(-), ZnO2(-2), SNO2(-2), and H2 (or H2O with oxides). All organic acids also react with sodium hydroxide to form soluble salts. Another common reaction of caustic soda is dehydrochlorination.

10.6 Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

Sodium hydroxide: Sodium oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

The ATE (dermal) of the mixture is: 1111.11 mg/kg bw

The ATE (gas inhalation) of the mixture is: 3225.81 ppmV

The ATE (oral) of the mixture is: 431.03 mg/kg bw

Methanol

LD50 Oral - Rat - 1,187 - 2,769 mg/kg

Sodium azide

LD50 Oral - Rat - 27 mg/kg

Skin corrosion/irritation

Methanol

LD50 Skin - Rabbit - 17,100 mg/kg

Sodium azide

LD50 Skin - Rat - 20 mg/kg

Serious eye damage/irritation

Risk of serious damage to eyes.

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Germ cell mutagenicity

Based on available data, classification data are not met

Carcinogenicity

Formaldehyde

Remarks: IARC: 1 - Group 1: Carcinogenic to humans (Formaldehyde)

NTP: Known to be human carcinogen (Formaldehyde)

OSHA: OSHA specifically regulated carcinogen (Formaldehyde)

Reproductive toxicity

Based on available data, classification data are not met

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

Methanol

LD50 Inhalation - Rat - 128.2 mg/l - 4 h

Methanol

LD50 Inhalation - Rat - 87.6 mg/l - 6 h

Sodium azide

LC50 Inhalation - Rat - 0.054 - 0.52 mg/l - 4 hr

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Methanol

LC50 - Lepomis macrochirus (bluegill) - 15.400 mg/l - 96 h

Methanol

NOEC - Oryzias latipes - 7.900 mg/l - 200 h

Methanol

EC50 - Daphnia magna (water flea) - >10,000 mg/l - 48 h

Sodium azide

LC50 - Oncorhynchus mykiss (rainbow trout) - 2.96 mg/l - 96 h

Sodium azide

EC50 - Pseudokirchneriella subcapitata (green algae) - 0.348 mg/l - 96 h

Sodium hydroxide solid or pellets

LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h

Citation: Sigma SDS

Sodium hydroxide solid or pellets

LC50 - Oncorhynchus mykiss (rainbow trout) - 45.4 mg/l - 96 h

Citation: Sigma SDS

Sodium hydroxide solid or pellets

EC50 - Daphnia magna (water flea) - 40.38 mg/l - 48 h

Citation: Sigma SDS

Sodium hydroxide solid or pellets

LC50 - Poecilia reticulata (guppy) - 196 mg/l - 96 h

Citation: Ecotox, 63143 Adema, D.M.M., 1985

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal

Offer surplus and non-recyclable solutions to a licensed disposal company.

Packaging disposal

Dispose of as unused product.

Waste treatment

No data available

Sewage disposal

Do not let product enter drains

Other disposal recommendations

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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SECTION 14: Transport information

14.1 UN Number UN3266

14.2 UN Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.

14.3 Transport hazard class(es)

14.4 Packing group

14.5 Environmental hazards

Marine pollutant

14.6 Special precautions for user

For professional users only.

Should not be released into the environment.

14.7 Maritime transport in bulk according to IMO instruments

Not shipped in bulk

SECTION 15: Regulatory information

15.2 Chemical Safety Assessment

The supplier of this product has not conducted any Chemical Safety Assessment

HMIS Rating

Reticulum Stain Kit (EU)
HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	G

NFPA Rating



SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer

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Further information/disclaimer

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