



## Reticulum II Staining Kit

Version 1.0

Revision Date 03-20-2013

Print Date 05-13-2013

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Commercial Product Name : Reticulum II Staining Kit  
 Mat.-No./ Genisys-No. : 05279399001

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

Recommended restrictions : For professional users only.  
 on use

#### 1.3 Details of the supplier of the safety data sheet

Company : Ventana Medical Systems  
 1910 E. Innovation Park Drive  
 85755 Tucson AZ

E-mail address :  
 Telephone : 1-800-227-2155 or 520-877-2155  
 Telefax :  
 Responsible Department :  
 In case of emergencies: : CHEMTREC 1-800-424-9300 (U.S. or  
 Canada)  
 1-703-527-3887  
 (International)

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

##### Classification (67/548/EEC, 1999/45/EC)

Flammable	R10: Flammable.
Corrosive	R35, R36, R43: Causes severe burns., Irritating to eyes., May cause sensitisation by skin contact.
Dangerous for the environment	R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)



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Hazard pictograms :



Signal word :

Danger

Hazard statements :

H226 Flammable liquid and vapour.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**  
 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.  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash skin thoroughly after handling.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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/ physician.  
 P321 Specific treatment (see supplemental first aid instructions on this label).  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P363 Wash contaminated clothing before reuse.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
 P391 Collect spillage.



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**Storage:**P403 + P235  
P405Store in a well-ventilated place. Keep cool.  
Store locked up.**Disposal:**

P501

Dispose of contents/ container to an  
approved waste disposal plant.**Additional Labelling:**

EUH208 Contains: Gold chloride, hydrochloride, trihydrate May produce an allergic reaction.  
EUH210 Safety data sheet available on request.

**2.3 Other hazards**

No information available.

**3. Composition/information on ingredients****3.2 Mixtures***Nuclear Fast Red / Red Counterstain II***Classification (REGULATION (EC) No 1272/2008)**

Serious eye damage, Category 1

H318: Causes serious eye damage.

**Classification (67/548/EEC, 1999/45/EC)**

Irritant

R36: Irritating to eyes.

**Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Aluminium sulfate- hexadecahydrate	16828-11-8	Xi; Xi; R41	Eye Dam. 1; H318	>= 5 - < 10

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

*Toner***Classification (REGULATION (EC) No 1272/2008)**

Skin corrosion, Category 1A

H314: Causes severe skin burns and eye damage.

**Classification (67/548/EEC, 1999/45/EC)**

Corrosive

R35: Causes severe burns.

**Hazardous components**

Chemical Name	CAS-No. EC-No.	Classification (67/548/EEC)	Classification (REGULATION	Concentration [%]
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	Registration number		(EC) No 1272/2008)	
Gold chloride, hydrochloride, trihydrate	16961-25-4 240-948-4	C; C; R34 Xi; Xi; R43	Skin Corr. 1B; H314 Skin Sens. 1; H317	>= 0.1 - < 1

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### *Oxidizer*

#### **Classification (REGULATION (EC) No 1272/2008)**

Chronic aquatic toxicity, Category 2

H411: Toxic to aquatic life with long lasting effects.

#### **Classification (67/548/EEC, 1999/45/EC)**

Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### **Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
potassium permanganate	7722-64-7 231-760-3	O; R 8 Xn; R22 N; R50-R53	Ox. Sol. 2; H272 Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 2.5

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### *Decolorizer*

#### **Classification (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

#### **Classification (67/548/EEC, 1999/45/EC)**

Not a hazardous substance or mixture.

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

### *Sensitizer*

#### **Classification (REGULATION (EC) No 1272/2008)**



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Not a hazardous substance or mixture.

### Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
ammonium iron bis(sulphate)	10138-04-2 233-382-4	Xi; Xi; R36/37/38	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	< 10

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### Silver A

### Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2

Serious eye damage, Category 1

Chronic aquatic toxicity, Category 3

H315: Causes skin irritation.

H318: Causes serious eye damage.

H412: Harmful to aquatic life with long lasting effects.

### Classification (67/548/EEC, 1999/45/EC)

Dangerous for the environment

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
ammonia, aqueous solution	1336-21-6 215-647-6	C; R34 N; R50	Acute Tox. 4; H302 Skin Corr. 1B; H314 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	< 5
silver carbonate	534-16-7 208-590-3	Xi; Xi; R41 N; N; R50/53	Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 2.5

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.



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### Reducer

#### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3

H226: Flammable liquid and vapour.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

#### Classification (67/548/EEC, 1999/45/EC)

Flammable

R10: Flammable.

Sensitising

R43: May cause sensitisation by skin contact.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
ethanol	64-17-5 200-578-6	F; R11	Flam. Liq. 2; H225	>= 25 - < 50
formaldehyde	50-00-0 200-001-8	Carc.Cat.3; R40 T; R23/24/25 C; R34 R43	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Skin Corr. 1B; H314 Skin Sens. 1; H317 Carc. 2; H351	>= 0.2 - < 1

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### Fixer II

#### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3

H226: Flammable liquid and vapour.

#### Classification (67/548/EEC, 1999/45/EC)

Flammable

R10: Flammable.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
ethanol	64-17-5 200-578-6	F; R11	Flam. Liq. 2; H225	>= 25 - < 50

For the full text of the R-phrases mentioned in this Section, see Section 16.

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For the full text of the H-Statements mentioned in this Section, see Section 16.

**4. First aid measures****4.1 Description of first aid measures**

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.  
Rinse mouth with water.

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

- Symptoms : No information available.

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

- Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

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**5. Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Wear self contained breathing apparatus for fire fighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

**6. Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Refer to protective measures listed in sections 7 and 8.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**6.2 Environmental precautions**

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4 Reference to other sections**



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Treat recovered material as described in the section "Disposal considerations".

### 7. Handling and storage

#### 7.1 Precautions for safe handling

- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
To prevent leaks or spillages from spreading, provide a suitable liquid retention system.
- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).  
Keep away from open flames, hot surfaces and sources of ignition.

#### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : No smoking.  
Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage conditions : See label, package insert or internal guidelines
- Other data : No decomposition if stored and applied as directed.

#### 7.3 Specific end use(s)

- Specific use(s) : Laboratory chemicals



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**8. Exposure controls/personal protection**

**Exposure Guidelines**

*Nuclear Fast Red / Red Counterstain II*

**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Source
Aluminium sulfate-hexadecahydrate	16828-11-8	TWA	2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	2 mg/m3	USA. NIOSH Recommended Exposure Limits

*Toner*

Contains no substances with occupational exposure limit values.

*Oxidizer*

Contains no substances with occupational exposure limit values.

*Decolorizer*

Contains no substances with occupational exposure limit values.

*Sensitizer*

Contains no substances with occupational exposure limit values.

*Silver A*

Contains no substances with occupational exposure limit values.

*Reducer*

**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Source
ethanol	64-17-5	TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1,000 ppm 1,900 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm 1,900 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air

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				Contaminants
		TWA	1,000 ppm 1,900 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
formaldehyde	50-00-0	C	0.3 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.016 ppm	USA. NIOSH Recommended Exposure Limits
		C	0.1 ppm	USA. NIOSH Recommended Exposure Limits
		TWA	0.016 ppm	USA. NIOSH Recommended Exposure Limits
		C	0.1 ppm	USA. NIOSH Recommended Exposure Limits
		PEL	0.75 ppm	OSHA Specifically Regulated Chemicals/Carcinogens
		STEL	2 ppm	OSHA Specifically Regulated Chemicals/Carcinogens

*Fixer II*

**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Source
ethanol	64-17-5	TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1,000 ppm 1,900 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm 1,900 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	1,000 ppm 1,900 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

**Personal protective equipment**

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles



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		Wear face-shield and protective suit for abnormal processing problems.
Hand protection	:	Protective gloves
		<p>The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.</p> <p>This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application specified by us.</p> <p>Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.</p> <p>The suitability for a specific workplace should be discussed with the producers of the protective gloves.</p>
Skin and body protection	:	<p>impervious clothing</p> <p>Choose body protection according to the amount and concentration of the dangerous substance at the work place.</p>
Hygiene measures	:	<p>When using do not eat or drink.</p> <p>When using do not smoke.</p> <p>Wash hands before breaks and at the end of workday.</p>

### 9. Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

*Nuclear Fast Red / Red Counterstain II*

Appearance	:	liquid
Colour	:	red
Odour	:	none
pH	:	acidic
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	does not flash
Flammability (solid, gas)	:	The product is not flammable.
Lower explosion limit	:	no data available
Upper explosion limit	:	no data available
Vapour pressure	:	no data available
Water solubility	:	completely miscible



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Partition coefficient: n-octanol/water	: no data available
Ignition temperature	: no data available
Thermal decomposition	: Hazardous decomposition products formed under fire conditions.
Viscosity, dynamic	: no data available
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
<i>Toner</i>	
Appearance	: liquid
Colour	: yellow
pH	: 2.0 - 3.0
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: does not flash
Flammability (solid, gas)	: The product is not flammable.
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: no data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: no data available
Ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
<i>Oxidizer</i>	
Appearance	: liquid
Colour	: violet
Odour	: none
pH	: neutral
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: does not flash
Flammability (solid, gas)	: The product is not flammable.
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: no data available
Water solubility	: completely miscible



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Partition coefficient: n-octanol/water	: no data available
Ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
<i>Decolorizer</i>	
Appearance	: liquid
Colour	: colourless
Odour	: none
pH	: neutral
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: does not flash
Flammability (solid, gas)	: The product is not flammable.
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: no data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: no data available
Ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
<i>Sensitizer</i>	
Appearance	: liquid
Colour	: gold
Odour	: none
pH	: acidic
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: does not flash
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: no data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: no data available



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Ignition temperature : no data available

Thermal decomposition : no data available

Viscosity, dynamic : no data available

*Silver A*

Appearance : liquid

Colour : colourless

Odour : none

pH : 11.4

Melting point/range : no data available

Boiling point/boiling range : no data available

Flash point : does not flash

Lower explosion limit : no data available

Upper explosion limit : no data available

Vapour pressure : no data available

Density : 1.0015 g/cm<sup>3</sup>

Water solubility : completely miscible

Partition coefficient: n-octanol/water : no data available

Ignition temperature : no data available

Thermal decomposition : no data available

Viscosity, dynamic : no data available

*Reducer*

Appearance : liquid

Colour : colourless

Odour : slightformaldehyde-like

pH : acidic

Melting point/range : no data available

Boiling point/boiling range : no data available

Flash point : 32 °C

Lower explosion limit : no data available

Upper explosion limit : no data available

Vapour pressure : no data available

Density : 0.956 g/cm<sup>3</sup>

Water solubility : completely miscible

Partition coefficient: n-octanol/water : no data available

Ignition temperature : no data available



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Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
<i>Fixer II</i>	
Appearance	: liquid
Colour	: colourless
Odour	: slight sulphurous
pH	: neutral
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: 32 °C
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: no data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: no data available
Ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available

### 9.2 Other information

#### *Nuclear Fast Red / Red Counterstain II*

Conductivity	: no data available
Oxidising potential	: no data available
Surface tension	: no data available

#### *Toner*

Conductivity	: no data available
Oxidising potential	: no data available
Surface tension	: no data available

#### *Oxidizer*

Conductivity	: no data available
Oxidising potential	: no data available
Surface tension	: no data available

#### *Decolorizer*

Conductivity	: no data available
Oxidising potential	: no data available
Surface tension	: no data available

#### *Sensitizer*

Conductivity	: no data available
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Oxidising potential	:	no data available
Surface tension	:	no data available
<i>Silver A</i>		
Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available
<i>Reducer</i>		
Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available
<i>Fixer II</i>		
Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available

**10. Stability and reactivity****10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Further information: No decomposition if stored and applied as directed.  
: Vapours may form explosive mixture with air.

**10.4 Conditions to avoid**

Conditions to avoid : no data available  
Heat, flames and sparks.

**10.5 Incompatible materials**

Materials to avoid : no data available

**10.6 Hazardous decomposition products**

Hazardous decomposition products : no data available

**11. Toxicological information****11.1 Information on toxicological effects**

Further information : Solvents may degrease the skin.

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*Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

**12. Ecological information****12.1 Toxicity***Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

**12.2 Persistence and degradability***Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

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No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

**12.3 Bioaccumulative potential**

*Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

**12.4 Mobility in soil**

*Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

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**12.5 Results of PBT and vPvB assessment***Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*

No ingredients are hazardous according to OSHA criteria.

**12.6 Other adverse effects****Product:**Additional ecological  
information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

*Nuclear Fast Red / Red Counterstain II*

No ingredients are hazardous according to OSHA criteria.

*Toner*

No ingredients are hazardous according to OSHA criteria.

*Oxidizer*

No ingredients are hazardous according to OSHA criteria.

*Decolorizer*

No ingredients are hazardous according to OSHA criteria.

*Sensitizer*

No ingredients are hazardous according to OSHA criteria.

*Silver A*

No ingredients are hazardous according to OSHA criteria.

*Reducer*

No ingredients are hazardous according to OSHA criteria.

*Fixer II*



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No ingredients are hazardous according to OSHA criteria.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

- Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

### 14. Transport information

#### 14.1 UN number

- DOT : 3316  
IMDG : 3316  
IATA : 3316

#### 14.2 Proper shipping name

- DOT : Chemical kits  
IMDG : Chemical kit  
IATA : Chemical kit

#### 14.3 Transport hazard class

- DOT : 9  
IMDG : 9  
IATA : 9

#### 14.4 Packing group

- DOT  
Packaging group : II  
Labels : 9  
Tunnel restriction code : packed
- IMDG  
Packaging group : II  
Labels : 9  
EmS Number : F-A, S-P
- IATA\_C  
Packing instruction (cargo aircraft) : 960  
Packaging group : II  
Labels : 9



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### IATA\_P

Packing instruction : 960  
 (passenger aircraft)  
 Packaging group : II  
 Labels : 9

### 14.5 Environmental hazards

#### DOT

Environmentally hazardous : no

#### IMDG

Marine pollutant : no

#### IATA

Environmentally hazardous : no

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : not applicable

## 15. Regulatory information

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

#### *Nuclear Fast Red / Red Counterstain II* REGULATORY INFORMATION

**OSHA Hazards** : Severe eye irritant

**WHMIS Classification** : D2B Toxic Material Causing Other Toxic Effects  
 Severe eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

#### CERCLA Reportable Quantity

Components : Aluminium sulfate-hexadecahydrate 5000 lbs

#### SARA 302 Reportable Quantity

Product : Calculated RQ exceeds reasonably attainable upper limit.

Components : sodium azide  
**SARA 311/312 Hazards** : Acute Health Hazard

### EPCRA - Emergency Planning and Community Right-to-Know Act



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**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : Calculated RQ exceeds reasonably attainable upper limit.  
**Components** : sodium azide

### Clean Air Act

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

### Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Aluminium sulfate-hexadecahydrate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Aluminium sulfate-hexadecahydrate

### US State Regulations

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Toner*

## REGULATORY INFORMATION

**OSHA Hazards** : No OSHA Hazards

**WHMIS Classification** : E Corrosive Material  
Corrosive to metals

Corrosive to skin

Corrosive to eyes

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

### CERCLA Reportable Quantity

### SARA 302 Reportable Quantity



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**Product** : This material does not contain any components with a SARA 302 RQ.

No SARA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Oxidizer*

**REGULATORY INFORMATION**

**OSHA Hazards** : No OSHA Hazards

**WHMIS Classification** : Not Rated

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity**



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Components : potassium permanganate 100 lbs

**SARA 302 Reportable Quantity**

Product : This material does not contain any components with a SARA 302 RQ.

No SARA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):**

potassium permanganate 0.5 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

potassium permanganate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

potassium permanganate

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Decolorizer*

**REGULATORY INFORMATION**

**OSHA Hazards** : No OSHA Hazards

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**WHMIS Classification** : Not Rated

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity****SARA 302 Reportable Quantity**

Product : This material does not contain any components with a SARA 302 RQ.

No SARA Hazards

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Sensitizer***REGULATORY INFORMATION**

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**OSHA Hazards** : Moderate skin irritant  
Moderate eye irritant  
Moderate respiratory irritant

**WHMIS Classification** : D2B Toxic Material Causing Other Toxic Effects  
Moderate skin irritant  
  
Moderate respiratory irritant  
  
Moderate eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity****SARA 302 Reportable Quantity**

Product : This material does not contain any components with a SARA 302 RQ.

Acute Health Hazard

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**US State Regulations**



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**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Silver A*

**REGULATORY INFORMATION**

**OSHA Hazards** : Toxic by ingestion  
Severe eye irritant  
Moderate respiratory irritant

**WHMIS Classification** : D1B Toxic Material Causing Immediate and Serious Toxic Effects  
Toxic by ingestion  
D2B Toxic Material Causing Other Toxic Effects  
Moderate respiratory irritant  
  
Severe eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity**

Components : ammonia, aqueous solution 1000 lbs

**SARA 302 Reportable Quantity**

Product : This material does not contain any components with a SARA 302 RQ.

Acute Health Hazard

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

Components : silver carbonate

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).



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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

ammonia, aqueous solution

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

ammonia, aqueous solution

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Reducer*

**REGULATORY INFORMATION**

**OSHA Hazards** : Flammable liquid  
Carcinogen

**WHMIS Classification** : B2 Flammable liquid  
Flammable liquid  
D2A Very Toxic Material Causing Other Toxic Effects  
Carcinogen

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity**

Components : formaldehyde 100 lbs

**SARA 302 Reportable Quantity**

Product : Calculated RQ exceeds reasonably attainable upper limit.

Components : formaldehyde  
Fire Hazard  
Chronic Health Hazard

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : The following components are subject to reporting levels established by SARA Title III, Section 302:

Components : formaldehyde

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**SARA 304** : Calculated RQ exceeds reasonably attainable upper limit.  
Components : formaldehyde

Components : formaldehyde

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):**

formaldehyde 0.4 %

**The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):**

formaldehyde 0.4 %

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

**The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):**

ethanol 25 %

formaldehyde 0.4 %

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

formaldehyde

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

formaldehyde

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

*Fixer II*

**REGULATORY INFORMATION**

**OSHA Hazards** : Flammable liquid  
Carcinogen

**WHMIS Classification** : B2 Flammable liquid  
Flammable liquid  
D2A Very Toxic Material Causing Other Toxic Effects  
Carcinogen

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This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**CERCLA Reportable Quantity****SARA 302 Reportable Quantity**

Product : This material does not contain any components with a SARA 302 RQ.

Fire Hazard  
Chronic Health Hazard

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304** : This material does not contain any components with a section 304 EHS RQ.

**Clean Air Act**

**Ozone-Depletion Potential** : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

**The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):**

ethanol 25 %

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**US State Regulations**

**California Prop 65 Components** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**15.2 Chemical Safety Assessment**

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A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

**16. Other information**

**Full text of R-phrases referred to under sections 2 and 3**

**Full text of H-Statements referred to under sections 2 and 3.**

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.