SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

PAS STAINING KIT

Version 1 . 0 | Revision Date 10-05-2012 | Print Date 05-11-2013

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

1.1 Product identifier

Commercial Product Name	:	PAS STAINING KIT
Mat.-No./ Genisys-No.	:	05279291001

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

Recommended restrictions on use	:	For professional users only.

1.3 Details of the supplier of the safety data sheet

Company	:	Roche Diagnostics Limited Charles Avenue Burgess Hill RH15 9RY West Sussex	
E-mail address	:	-	
Telephone	:	+44 1444 256000	
Telefax	:	+44 1444 256239	
Responsible Department	:		
In case of emergencies: (Roche Diagnostics Ltd.)	:	Health, Safety & Environment - Product Safety / Vigilance -	+44 1444 256500 or +44 7802 260498 +44 1444 256561 or +44 7710 391653
Toxicology 24Hr help-line: Health Advice 24Hr help-line:	:	NPIS: NHS Direct: NHS 24:	+44 844 892 0111 +44 845 4647 +44 8454 242424

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 1B	H350: May cause cancer.

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

Toxic	R45: May cause cancer.
Corrosive	R35: Causes severe burns.
Harmful	R22: Harmful if swallowed.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word	:	Danger	
Hazard statements	:	H314	Causes severe skin burns and eye damage.
		H350	May cause cancer.
Precautionary statements	:	**Prevention:**	
		P201	Obtain special instructions before use.
		P202	Do not handle until all safety precautions have been read and understood.
		P264	Wash skin thoroughly after handling.
		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).
		P337 + P313	If eye irritation persists: Get medical advice/ attention.
		P363	Wash contaminated clothing before reuse.
		Storage:	
		P405	Store locked up.
		Disposal:	
		P501	Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling:

Restricted to professional users.

2.3 Other hazards

No information available.

3. Composition/information on ingredients

3.2 Mixtures

Periodic Acid

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.

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

Schiff's Reagent

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Category 1A H314: Causes severe skin burns and eye damage.
Carcinogenicity, Category 1B H350: May cause cancer.

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

Carcinogenic Category 2 R45: May cause cancer.
Corrosive R35: Causes severe burns.

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
sodium hydrogensulfite	7631-90-5 231-548-0	Xn; R22 R31	Acute Tox. 4; H302	< 10
4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride	569-61-9 209-321-2	Carc.Cat.2; R45	Carc. 1B; H350	>= 0.1 - < 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.

Neutralizer

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

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

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

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

Hematoxylin

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 H319: Causes serious eye irritation.

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

Harmful R22: Harmful if swallowed.

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
ethane-1,2-diol	107-21-1 203-473-3	Xn; R22	Acute Tox. 4; H302	>= 25 - < 50
sodium iodate	7681-55-2 231-672-5	O; R 8	Ox. Sol. 2; H272 Acute Tox. 4; H302	< 10
acetic acid	64-19-7 200-580-7	R10 C; R35	Flam. Liq. 3; H226 Skin Corr. 1A; H314	>= 1 - < 5
haematoxylin	517-28-2 208-237-3	Xn; Xn; R22-R36/37/38	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	< 10
aluminium sulphate	10043-01-3 233-135-0	Xi; Xi; R37/38-R41	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	< 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.

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 : 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.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

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	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

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

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	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. Dispose of rinse water in accordance with local and national regulations. To prevent leaks or spillages from spreading, provide a suitable liquid retention system.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. 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

8. Exposure controls/personal protection

Exposure Guidelines

Periodic Acid

Contains no substances with occupational exposure limit values.

Schiff's Reagent

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Source
sodium hydrogensulfite	7631-90-5	TWA	5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	5 mg/m3	USA. NIOSH Recommended Exposure Limits

Neutralizer

Contains no substances with occupational exposure limit values.

Hematoxylin

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Source
ethane-1,2-diol	107-21-1	C	50 ppm 125 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
acetic acid	64-19-7	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	10 ppm 25 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	15 ppm 37 mg/m3	USA. NIOSH Recommended Exposure

				Limits
		TWA	10 ppm 25 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	10 ppm 25 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
Wear face-shield and protective suit for abnormal processing problems.

Hand protection :
Protective gloves

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
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.
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.
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Periodic Acid

Appearance	:	liquid
Colour	:	colourless
pH	:	1.7 - 1.9
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	not applicable
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

Schiff's Reagent

Appearance	:	liquid
Colour	:	colourless
Odour	:	pungent
pH	:	1.7
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	not applicable
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

Neutralizer

Appearance	:	liquid

Colour	:	colourless
Odour	:	sulphurous
pH	:	3.59
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	not applicable
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
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

Hematoxylin

Appearance	:	liquid
Colour	:	violet
Odour	:	vinegar-like
pH	:	2.3 - 2.6
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	not applicable
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

9.2 Other information

Periodic Acid

Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available
Schiff's Reagent		
Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available
Neutralizer		
Conductivity	:	no data available
Oxidising potential	:	no data available
Surface tension	:	no data available
Hematoxylin		
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	:	Reacts with the following substances: Acids Bases Oxidizing agents Reducing agents
	:	Further information: No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid	:	no data available

10.5 Incompatible materials

Materials to avoid	:	no data available

10.6 Hazardous decomposition products

Hazardous decomposition products	:	Carbon oxides Sulphur oxides nitrogen oxides (NOx) Hydrogen chloride gas

: no data available

11. Toxicological information

11.1 Information on toxicological effects

Periodic Acid

No ingredients are hazardous according to OHSA criteria.

Schiff's Reagent

Components:

sodium hydrogensulfite :

Acute oral toxicity	:	LD50 Oral: 1,540 mg/kg, rat
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	This information is not available.
Serious eye damage/eye irritation	:	This information is not available.
Respiratory or skin sensitization	:	Result: no data available
STOT - single exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Acute oral toxicity	:	LD50 Oral: 5,000 mg/kg, mouse
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	This information is not available.
Serious eye damage/eye irritation	:	This information is not available.
Respiratory or skin sensitization	:	Result: no data available

STOT - single exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

Neutralizer

No ingredients are hazardous according to OHSA criteria.

Hematoxylin

Components:

ethane-1,2-diol :

Acute oral toxicity	:	LD50 Oral: 4,700 mg/kg, rat
	:	LD50 Oral: 5,500 mg/kg, mouse
	:	LD50 Oral: 5,500 mg/kg, dog
	:	LD50 Oral: 1,650 mg/kg, cat
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 Dermal: > 10,000 mg/kg, rabbit
Acute toxicity (other routes of administration)	:	no data available
Further information	:	no data available

acetic acid :

Acute oral toxicity	:	LD50 Oral: 3,310 mg/kg, rat
Acute dermal toxicity	:	LD50 Dermal: 1016 µl/kg, rabbit
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	Result: Causes severe burns., Extremely corrosive and destructive to tissue.
Serious eye damage/eye irritation	:	May cause irreversible eye damage.
Respiratory or skin sensitization	:	Result: no data available
STOT - single exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

haematoxylin :

Acute oral toxicity	:	LD50 Oral: 400 mg/kg, rat
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	Result: Irritating to skin., May cause skin irritation in susceptible persons.
Serious eye damage/eye irritation	:	Result: Irritating to eyes., May cause irreversible eye damage.
Respiratory or skin sensitization	:	Result: no data available
STOT - single exposure	:	Exposure routes: Inhalation Assessment: May cause respiratory irritation.
STOT - repeated exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

sodium iodate :

Acute oral toxicity	:	LD50 Oral: 505 mg/kg, mouse
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	This information is not available.
Serious eye damage/eye irritation	:	This information is not available.
Respiratory or skin sensitization	:	Result: no data available
STOT - single exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

aluminium sulphate :

Acute oral toxicity	:	LD50: 6,207 mg/kg, mouse
Acute inhalation toxicity	:	no data available

Acute dermal toxicity	:	no data available
Acute toxicity (other routes of administration)	:	no data available
Skin corrosion/irritation	:	Result: Irritating to skin., May cause skin irritation in susceptible persons.
Serious eye damage/eye irritation	:	Result: Risk of serious damage to eyes., May cause irreversible eye damage.
Respiratory or skin sensitization	:	Result: no data available
STOT - single exposure	:	Assessment: May cause respiratory irritation.
STOT - repeated exposure	:	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	:	no data available
Further information	:	no data available

12. Ecological information

12.1 Toxicity

Periodic Acid
No ingredients are hazardous according to OHSA criteria.
Schiff's Reagent
Components:

sodium hydrogensulfite :

Toxicity to fish	:	no data available
Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known eco-toxicological effects.
Chronic aquatic toxicity	:	This product has no known eco-toxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Toxicity to fish	:	no data available

Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known eco-toxicological effects.
Chronic aquatic toxicity	:	This product has no known eco-toxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

Neutralizer
No ingredients are hazardous according to OHSA criteria.
Hematoxylin
Components:

ethane-1,2-diol :

Toxicity to fish	:	LC50: > 10,000 mg/l, Leuciscus idus (Golden orfe)
	:	LC50: > 5,000 mg/l, 24 h, Carassius auratus (goldfish), OECD Test Guideline 203
	:	LC50: > 18,500 mg/l, 4 d, Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates	:	LC50: > 10,000 mg/l, 48 h, Daphnia magna (Water flea), OECD Test Guideline 202
Toxicity to algae	:	EC0: > 10,000 mg/l, 7 d, Scenedesmus quadricauda (Green algae)
Toxicity to bacteria	:	EC0: > 10,000 mg/l, 16 h, Pseudomonas putida

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

acetic acid :

Toxicity to fish	:	LC50: 410 mg/l, 48 h, Leuciscus idus (Golden orfe)
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 95 mg/l, 24 h, Daphnia magna (Water flea)
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

haematoxylin :

Toxicity to fish	:	no data available

Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

sodium iodate :

Toxicity to fish	:	LC50: 220 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

aluminium sulphate :

Toxicity to fish	:	33.9 mg/l, 96 h, Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates	:	38.2 mg/l, 48 h, Daphnia magna (Water flea)
Toxicity to algae	:	no data available
Toxicity to bacteria	:	no data available

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known eco-toxicological effects.
Chronic aquatic toxicity	:	This product has no known eco-toxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	no data available

12.2 Persistence and degradability

Periodic Acid
No ingredients are hazardous according to OHSA criteria.
Schiff's Reagent
Components:

sodium hydrogensulfite :

Biodegradability	:	no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Biodegradability : no data available

Neutralizer
No ingredients are hazardous according to OHSA criteria.
Hematoxylin
Components:

ethane-1,2-diol :

Biodegradability : 100 %, Exposure time: 28 d, OECD Test Guideline 302

acetic acid :

Biodegradability : 71 %, Exposure time: 5 d

haematoxylin :

Biodegradability : no data available

sodium iodate :

Biodegradability : no data available

aluminium sulphate :

Biodegradability : no data available

12.3 Bioaccumulative potential

Periodic Acid
No ingredients are hazardous according to OHSA criteria.
Schiff's Reagent
Components:
sodium hydrogensulfite :
Bioaccumulation : no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :
Bioaccumulation : no data available

Neutralizer
No ingredients are hazardous according to OHSA criteria.
Hematoxylin
Components:
ethane-1,2-diol :
Bioaccumulation : no data available

acetic acid :
Bioaccumulation : no data available

haematoxylin :
Bioaccumulation : no data available

sodium iodate :
Bioaccumulation : no data available

aluminium sulphate :
Bioaccumulation : no data available

12.4 Mobility in soil

Periodic Acid
No ingredients are hazardous according to OHSA criteria.

Schiff's Reagent
Components:
sodium hydrogensulfite :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

Neutralizer
No ingredients are hazardous according to OHSA criteria.

Hematoxylin
Components:
ethane-1,2-diol :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

acetic acid :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

haematoxylin :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

sodium iodate :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

aluminium sulphate :

Mobility	:	no data available
Distribution among environmental compartments	:	no data available
Environmental fate and pathways	:	no data available
Physico-chemical removability	:	no data available

12.5 Results of PBT and vPvB assessment

Periodic Acid
No ingredients are hazardous according to OHSA criteria.
Schiff's Reagent
Components:
sodium hydrogensulfite :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Neutralizer
No ingredients are hazardous according to OHSA criteria.
Hematoxylin
Components:

ethane-1,2-diol :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

acetic acid :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

haematoxylin :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

sodium iodate :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

aluminium sulphate :

Assessment	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Periodic Acid
No ingredients are hazardous according to OHSA criteria.

Schiff's Reagent
Components:
sodium hydrogensulfite :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	no data available
Additional ecological information	:	no data available

4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	not applicable
Additional ecological information	:	no data available

Neutralizer
No ingredients are hazardous according to OHSA criteria.

Hematoxylin
Components:
ethane-1,2-diol :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	no data available

acetic acid :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	no data available

haematoxylin :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	no data available

sodium iodate :

Biochemical Oxygen	:	no data available

Demand (BOD)		
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	no data available

aluminium sulphate :

Biochemical Oxygen Demand (BOD)	:	no data available
Dissolved organic carbon (DOC)	:	no data available
Chemical Oxygen Demand (COD)	:	no data available
Adsorbed organic bound halogens (AOX)	:	not applicable

13. Disposal considerations

13.1 Waste treatment methods

Product	:	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.

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
IATA_P
Packing instruction (passenger aircraft) : 960
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

Periodic Acid
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

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

SARA 311/312 Hazards : 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

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Components	:	water	90 - 100 %

New Jersey Right To Know

Components	:	water	90 - 100 %

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.

Schiff's Reagent
REGULATORY INFORMATION

TSCA list : Belongs to the group 'OSHA Chemicals in Need of Dermal Absorption Testing'

(e) Manufacturers and importers of the substances listed below by category must submit a Preliminary Assessment Information Manufacturers Report for each site at which they manufacture or import each substance by the reporting date shown in the table below. The categories are listed in alphabetic order with the chemical substances within each category listed by ascending numerical CAS number.

OSHA Hazards : Harmful by ingestion.
Carcinogen

WHMIS Classification : D2A Very Toxic Material Causing Other Toxic Effects
Carcinogen
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

Components : sodium hydrogensulfite 5000 lbs

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

Acute Health 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).

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

hydrogen chloride 0.74 %

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

US State Regulations

Massachusetts Right To Know

Components	:	sodium hydrogensulfite	1 - 5 %
		4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride	1 - 5 %
		hydrogen chloride	0.1 - 1 %

Pennsylvania Right To Know

Components	:	water	90 - 100 %
		sodium hydrogensulfite	1 - 5 %
		hydrogen chloride	0.1 - 1 %

New Jersey Right To Know

Components	:	water	90 - 100 %
		sodium hydrogensulfite	1 - 5 %
		4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride	1 - 5 %

California Prop 65 Components : WARNING! This product contains a chemical known to the State of California to cause cancer.
4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride

Neutralizer

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

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

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Components	:	water	90 - 100 %

New Jersey Right To Know

Components	:	water	90 - 100 %

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.

Hematoxylin
REGULATORY INFORMATION

OSHA Hazards : Toxic by ingestion
Corrosive to skin
Severe eye irritant

WHMIS Classification : D1B Toxic Material Causing Immediate and Serious Toxic Effects
Toxic by ingestion
D2B Toxic Material Causing Other Toxic Effects
Severe eye irritant
E Corrosive Material
Corrosive to skin

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	:	ethane-1,2-diol	5000 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 : ethane-1,2-diol

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):
ethane-1,2-diol 30 %
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 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
ethane-1,2-diol 30 %

acetic acid 1 %

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

Massachusetts Right To Know

Components	:	ethane-1,2-diol	30 - 50 %
		acetic acid	1 - 5 %
		aluminium sulphate	1 - 5 %

Pennsylvania Right To Know

Components	:	water	50 - 70 %
		ethane-1,2-diol	30 - 50 %
		acetic acid	1 - 5 %
		aluminium sulphate	1 - 5 %

New Jersey Right To Know

Components	:	water	50 - 70 %
		ethane-1,2-diol	30 - 50 %
		acetic acid	1 - 5 %
		haematoxylin	1 - 5 %
		sodium iodate	1 - 5 %
		aluminium sulphate	1 - 5 %

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

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

R 8	Contact with combustible material may cause fire.
R10	Flammable.
R22	Harmful if swallowed.
R31	Contact with acids liberates toxic gas.
R35	Causes severe burns.

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.