



Neutron®Pharmaceutical Co.
Manufacturer of Laboratory Chemical & Pharmaceutical Materials

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 19.07.2018

Version 9.3

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

1.1 Product identifier

Catalogue No. 1.3340

Product name Hematoxylin solution modified acc. to Gill III for microscopy

REACH Registration Number This product is a mixture. REACH Registration Number see section 3. This product is a mixture. REACH Registration Number see section 3.

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

Identified uses In vitro diagnostic reagent, Reagent for analysis
For additional information on uses please refer to the Neutron Chemicals portal (www.neutronpharmaceutical.com).

1.3 Details of the supplier of the safety data sheet

Company 98, 9th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran. T 021-66906732-3 - F 021-66581408

Department LS-QHC * e-mail: Info@neutronpharmaceutical.com

1.4 Emergency telephone number 125

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Serious eye damage, Category 1, H318

Specific target organ toxicity - repeated exposure, Category 2, Oral, Kidney, H373

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

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Product name Hematoxylin solution modified acc. to Gill III for microscopy

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary statements

Prevention

P280 Wear eye protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314 Get medical advice/ attention if you feel unwell.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye protection.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous dye solution.

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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ethylene glycol (>= 20 % - < 25 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

107-21-1	01-2119456816-28-XXXX	Acute toxicity, Category 4, H302 Specific target organ toxicity - repeated exposure, Category 2, H373
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aluminium sulfate (>= 3 % - < 5 %)

10043-01-3	01-2119531538-36-XXXX	Serious eye damage, Category 1, H318
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For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

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In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Unconsciousness, agitation, Tiredness, ataxia (impaired locomotor coordination), CNS disorders, Irritation and corrosion

Risk of serious damage to eyes.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Recommended storage temperature see product label.

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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

Derived No Effect Level (DNEL)

ethylene glycol (107-21-1)

Worker DNEL, longterm	Systemic effects	dermal	106 mg/kg Body weight
Worker DNEL, longterm	Local effects	inhalation	35 mg/m ³
Consumer DNEL, longterm	Systemic effects	dermal	53 mg/kg Body weight
Consumer DNEL, longterm	Local effects	inhalation	7 mg/m ³

Predicted No Effect Concentration (PNEC)

ethylene glycol (107-21-1)

PNEC Fresh water	10 mg/l
PNEC Marine water	1 mg/l
PNEC Aquatic intermittent release	10 mg/l
PNEC Fresh water sediment	20,9 mg/kg
PNEC Soil	1,53 mg/kg
PNEC Sewage treatment plant	199,5 mg/kg

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

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Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

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Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	reddish-violet
Odour	weak characteristic odour
Odour Threshold	No information available.
pH	ca. 2,5 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.

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Relative vapour density No information available.

Density 1,07 g/cm³
at 20 °C

Relative density No information available.

Water solubility at 20 °C
soluble

Partition coefficient: n-
octanol/water No information available.

Auto-ignition temperature No information available.

Decomposition temperature No information available.

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

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Risk of explosion with:

Aluminium, perchloric acid

Risk of ignition or formation of inflammable gases or vapours with:

chromyl chloride, Strong oxidizing agents, chlorates, Peroxides, potassium permanganate

Exothermic reaction with:

chlorosulfonic acid, Sodium hydroxide, fuming sulfuric acid, sulphuric acid

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

various plastics

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Symptoms: Irritation of mucous membranes, Nausea, Vomiting

Acute inhalation toxicity

Symptoms: Possible symptoms: mucosal irritations

Acute dermal toxicity

This information is not available.

Skin irritation

Possible damages: slight irritation

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Eye irritation

Mixture causes serious eye damage.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

Mixture may cause damage to organs through prolonged or repeated exposure.

Exposure routes: Ingestion

Target Organs: Kidney

Aspiration hazard

This information is not available.

11.2 Further information

After absorption:

agitation, CNS disorders

After a latency period:

Tiredness, ataxia (impaired locomotor coordination), Unconsciousness

Damage to:

Kidney

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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Components

ethylene glycol

Acute oral toxicity

LDLO human: 786 mg/kg

(RTECS)

Acute inhalation toxicity

LC50 Rat: > 2,5 mg/l; 6 h ; aerosol

(ECHA)

Acute dermal toxicity

LD50 Mouse: > 3.500 mg/kg

(ECHA)

Skin irritation

Rabbit

Result: No irritation

(ECHA)

Eye irritation

Rabbit

Result: No eye irritation

(ECHA)

Sensitisation

Patch test:

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vivo

Chromosome aberration test

Rat

male and female

Oral

Result: negative

(ECHA)

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Product name Hematoxylin solution modified acc. to Gill III for microscopy

Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(ECHA)

Carcinogenicity

Did not show carcinogenic effects in animal experiments.

aluminium sulfate

Acute oral toxicity

LD50 Rat: > 5.000 mg/kg

OECD Test Guideline 401

Acute dermal toxicity

LD50 Rabbit: > 233,5 mg/kg

OECD Test Guideline 402

Skin irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404

Sensitisation

Sensitisation test: human

Result: negative

(ECHA)

Germ cell mutagenicity

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Product name Hematoxylin solution modified acc. to Gill III for microscopy

Genotoxicity in vivo

Genotoxicity in vivo

Mouse

male and female

Oral

Exposure time: 90-day

Result: negative

(ECHA)

Genotoxicity in vitro

Mutagenicity (mammal cell test): micronucleus.

Human lymphocytes

Result: negative

(ECHA)

In vitro mammalian cell gene mutation test

Result: negative

Method: OECD Test Guideline 476

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

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Product name Hematoxylin solution modified acc. to Gill III for microscopy

Components

ethylene glycol

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): > 18.500 mg/l; 96 h
(External MSDS)

Toxicity to daphnia and other aquatic invertebrates

static test *Daphnia magna* (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

Toxicity to algae

IC50 *Scenedesmus quadricauda* (Green algae): > 10.000 mg/l; 7 d
(Lit.)

Toxicity to bacteria

static test EC5 *Pseudomonas putida*: > 10.000 mg/l; 16 h

DIN 38412

Biodegradability

100 %; 10 d; aerobic

OECD Test Guideline 301A

Readily biodegradable

Biochemical Oxygen Demand (BOD)

780 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

1.190 mg/g

(IUCLID)

Theoretical oxygen demand (ThOD)

1.290 mg/g

(IUCLID)

Ratio BOD/ThBOD

BOD5 60 %

(IUCLID)

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Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

aluminium sulfate

Toxicity to fish

static test LC50 Pimephales promelas (fathead minnow): 27,9 mg/l; 96 h

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

semi-static test LC50 Daphnia magna (Water flea): 242 mg/l; 48 h

OECD Test Guideline 202

semi-static test NOEC Daphnia magna (Water flea): 48,4 mg/l; 48 h

OECD Test Guideline 202

Toxicity to algae

static test EC50 plankton: 19.091 mg/l; 5 d

OECD Test Guideline 201

(ECHA)

static test NOEC plankton: 3.818 mg/l; 5 d

OECD Test Guideline 201

(ECHA)

Toxicity to bacteria

Respiration inhibition EC50 microorganisms: 0,5 mg/l; 396 d

(ECHA)

Respiration inhibition NOEC microorganisms: 0,1 mg/l; 396 d

(ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Reproduction Test NOEC Daphnia magna (Water flea): 12 mg/l; 28 d

US-EPA

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SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard SEVESO III
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).

National legislation

Storage class 10 - 13

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

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

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.

Training advice

Provide adequate information, instruction and training for operators.

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Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements

Prevention

P280 Wear eye protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314 Get medical advice/ attention if you feel unwell.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.
