Safety Data Sheet - SDS

according to Regulation (EC) No.1907/2006 (Ammended)

Concentrated Neutral Drabkin's Solution

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY.

1.1 Product Identifiers:

Product name	:	**Concentrated Neutral Drabkin's Solution.**
Product code	:	CNDS620
Index Number	:	Not indexed in regulation (EC) No.1272/2008.
REACH No.	:	Not required due to exemption from registration (below the annual tonnage for downstream user).
CAS Number	:	Not indexed.

1.2 Identified uses: To convert methaemoglobin into haemiglobincyanide when estimating haemiglobin concentration within a laboratory environment.

1.3 Company :

Diagnostic Reagents Ltd.
Wenman Road,
Thame,
Oxon, OX9 3NY,
UK.

Telephone : +44(0)1844 212426
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1.4 Emergency Tel: **+44(0)1844 212426 (Monday to Friday, 09.00 to 17.00)**

2. HAZARDS IDENTIFICATION.

2.1 Classification of the substance or mixture according to regulation (EC) No 1272/2008.

Acute toxicity, Oral (Category 2), H300.
Acute toxicity, Inhailation (Category 2), H330.
Acute toxicity, Dermal (Category 3), H311.
Specific target organ toxicity - single exposure (Category 2), H371.
Specific target organ toxicity - repeated exposure (Category 2), H373.
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

A full list of the relevant H-Statements mentioned in this section are listed in section 16

2.2 Label Elements :

Labelling according to Regulation (EC) No 1272/2008

Pictogram

Signal Word Danger

Hazard Statement(s)

H300	Fatal If Swallowed.
H311	Toxic in contact with skin.
H330	Fatal if inhaled.
H371	May caused damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Avoid release into the environment.
P271	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/clothing.
P284	In case of inadequate ventilation wear respiratory protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P320	Specific treatment is urgent (see supplemental first aid instructions in chapter
P322	Specific measures (see sections 5 & 6 below).
P330	Rinse mouth.
P361	Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.

Storage

P403 + P233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national

Supplemental Hazard information (EU)

EUH032	Contact with acid liberates very toxic gas.

2.3 Other hazards None.

3. COMPOSITION / INFORMATION ON INGREDIENTS.

3.2 Mixtures:

Hazardous ingredients according to Regulation (EC) No 1272/2008.

Component	Classification	Concentration
Potassium Cyanide (KCN) CAS No. 151-50-8 EC No. 205-792-3 Index No. 006-007-00-5	Met. Corr. 1; Acute Tox. 2; Acute Tox. 1 STOT SE1: STOT RE1; Aquatic Acute 1; H290, H300 + H310 + H330 H370, H372, H400, EUH032.	≥0.2%

4. FIRST AID MEASURES.

4.1 Description of first aid measures

4.1.1 First Aid Instructions

Consult a physician. Show this SDS to the doctor in attendance.

If inhaled

Get medical attention immediately. If breathing, move exposed person to fresh air at once and assess the severity of exposure. If not breathing, give artificial respiration.

In case of skin contact

Remove any clothing that has been contaminated, wash before reuse. Rinse the skin immediately with large amounts of water. Get medical attention if symptoms occur.

In case of eye contact.

In case of contact with eyes, flush with copious amounts of water for 15 minutes or more. Assure adequate flushing by separating the eyelids. Remove any contact lenses from eyes before rinsing. Seek medical

If swallowed.

If ingested, do NOT induce vomiting. Never make and unconscious person vomit or drink fluids. Get medical attention immediately.

4.1.2 Specfic Fist Aid Advice

Immediate medical attention is required after confirmed exposure, effects from contamintation may take 2-4hrs to become apparent . Movement of the exposed individual from the area to fresh air is required. Removal and handling of exposed clothing and shoes is required in the event of high exposure. Personal Protective equipment for first aid responders iis recommended if exposure is high and excess product is still present in the area.

4.2 Most important symptoms and effects, both accute and delayed.

Early symptoms of cyanide poisioning include lightheadedness, giddiness, rapid breathing, nausea, vomiting (emesis), feeling of neck constriction and suffocation, confusion, restlessness and anxiety. Rapid breathing is soon followed by respiratory depression/respiratory arrest (cessation of breathing).

4.3 Indication of any immediate medical attension and special treatment needed.
If the casualty is breathing, break two Amyl Nitrite tablets under the casualty's nose so the vapour is inhaled. Kelo-cyanor should only be used by trained personnel. If not suffering from cyanide poisoning Kelo-cyanor is extremely dangerous.

5. FIRE FIGHTING MEASURES.

5.1 Extinguishing media.

Suitable extinguishing media.
Dry powder

Unsuitable extinguishing media.
Water & Carbon Dioxide (CO_2).

5.2 Special Hazards arising from the substance or mixture.
Heating and fire may cause extremely toxic vapours. Carbon oxides, nitrogen oxides (Nox), Potassium oxides, Sodium oxides, Iron oxides, Hydrogen cyanide (Hydrocyanic acid) may be present.

5.3 Advice for firefighters.
When entering any fire, please ensure the correct protective clothing and self contained breathing apparatus are worn.

5.4 Further information.
No data available.

6. ACCIDENTAL RELEASE MEASURES.

6.1 Personal Precautions

6.1.1 Personal precautions, protective equipment and emergency procedures for non-emergency personnel.
Wear respiratory protection and the appropriate protective clothing (Please refer to section 8). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. If necessary evacuate personnel to safe areas.

6.1.2 Personal Precautions, protective equipment and emergency procedures for emergency responders.
Wear respiratory protection and the appropriate protective clothing (Please refer to section 8)

6.2 Environmental precautions.
Prevent further leakage or spillage if safe to do so. Do **not** let the product enter the drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up.
Mop up and containln, suitably disposing of the resulting saturated absorbant. Do NOT flush with water. Hold in suitable, closed containers for disposal.

6.4 Reference to other sections.
For disposal see section 13.

7. HANDLING AND STORAGE.

7.1 Precautions for safe handling.

Avoid spilling, skin and eye contact. Separate from incompatible substances. Do not use in confined spaces unless adequately ventilated or a respirator is available. Follow good working practice including no smoking, eating or drinking in the area. Correct use and maintenance of protective clothing is essential. Containers of this material may be hazardous, when empty as they retain product residues (liquid); observe all warnings and precautions listed for the product.

7.2 Conditions for safe storage, including any incompatibilities.

Protect against physical damage. Always keep in a tightly closed container in a cool, dry and well ventilated area. Do not store near acids. The product is light sensitive.

7.3 Specific end use(s).

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

8. EXPOSURE CONTROL / PERSONAL PROTECTION.

8.1 Control Parameters.

Components with workplace control parameters.

Component	CAS Number	Value	Control Parameters	Basis
Potassium Cyanide	151-50-8	TWA	5 mg/m^3	UK. EH40 Workplace Exposure Limits
Comments	Can be absorbed through the skin. The assigned substances are those for which there are concerns that the dermal adsorption will lead to systemic toxicity. Exposure will only occur through damage to the vial allowing contents into the work environment.			

8.2 Exposure controls.

Appropriate engineering controls.

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

8.2.2 Personal protective equipment.

Eye/face protection.

A face shield or safety glasses. Use equipment tested and approved by government standards such as EN 166 (EU) or NIOSH (US). An eyebath should be made available on site and where acceptable exposure levels are exceeded a safety shower.

Skin protection.

Handle with gloves. Gloves should be thouroughly checked before use. Use correct glove removal technique to avoid skin contact with this product. Dispose of any used gloves in accordance with applicable laws and Good Laboratory Practice (GLP).

Wash and dry hands thouroughly after use.

Protective gloves should adhere to the specifications detailed in EU directive 89/686/EEC and the derived standard EN374. A experienced Safety Officer should conduct a thourough assessment of any procedure using this product before proceeding.

Body Protection.
Wear impervious protective clothing, including boots, gloves, lab coat, apron or overalls as appropriate, to prevent skin contact. The extend of the protective equipment must be selected according to the concentration and the amount of dangerous substance being

Respiratory protection.
Breathing apparatus should be worn where the exposure limit is exceeded. This should be in the form of; a full face respirator (N100 (U.S) or P3 (EU), air lined hood or full face piece self contained breathing apparatus. This substance has poor warning properties.

9. PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic chemical and physical properties.

a) Physical state:	Liquid	**j) Decomposition temp:**	Not available.
b) Colour:	Yellow/Green	**k) pH:**	pH 7
c) Odour:	Almonds	**l) Kinematic viscosity:**	Not applicable.
d) Melting/freezing point	Not available.	**m) Solubility:**	Dilutes in water
e) Boiling point/range:	Not available.	**n) Partition coefficient:**	Not available.
f) Flammability:	Not available.	**o) Vapour pressure:**	Not available.
g) Lower and Upper explosion limit:	Not applicable.	**p) Density**	Not available.
		q) Relative vapour density:	Not available.
h) Flash Point:	Not available.	**r) Particle characteristics**	Not available.
i) Auto-Ignition Temp. :	Not applicable.		
Other information:	Not available.		

10. STABILITY AND REACTIVITY.

10.1 Reactivity
No data available

10.2 Chemical Stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Emits toxic fumes of cyanide and oxides of nitrogen when heated to decomposition.

10.4 Conditions to avoid:
Heat, Sunlight, incompatibilities.

10.5 Materials to avoid:
Ammonia, strong acids (yields toxic gas), strong oxidants, permanganates.

10.6 Hazardous decomposition products

Other decomposition products - no data available.
In the event of fire: See section 5.

11. TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects

Acute toxicity:
No data available.

Skin corrosion/irritation
No data available.

Serious eye damage/irritation.
No data available.

Respiratory or skin sensitisation.
No data available.

Germ cell mutagenicity.
No data available.

Carcinogenicity.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity.
No data available.

Specific target organ toxicity - single exposure.
No data available.

Specific target organ toxicity - repeated exposure.
No data available.

Aspiration hazard.
No data available.

Additional information.
RTECS: Not available.

Absorption into the body leads to the formation of methemoglobin, which in sufficient concentration causes cyanosis. Onset may be delayed 2 - 4 hours, please see section 4 for further information..

12. ECOLOGICAL INFORMATION

12.1 Toxicity.
No data available.

12.2 Persistence/Biodegradability.
No data available.

12.3 Bioaccumulation potential.
No data available.

12.4 Mobility in soil.
No data available.

12.5 Other adverse effects.
Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS.

13.1 Waste Treatment methods.

Product.
Cyanides must be oxidised to harmless waste before disposal. An alkaline solution of pH10 treated with chlorine or bleach in excess is sufficient. When cyanide free, it can then be neutralised. Whatever cannot be saved for recovery or recycling should be disposed of as hazardous waste by a licensed disposal company. Dispose of container and unused contents in accordance with local council/country regulations.

Contaminated Packaging.
Dispose of as an unused product.

14. TRANSPORT INFORMATION.

RID/ADR:

UK Road Class:	6.1	**UK Road Packaging Group:**	GR. III
UN No. (Road):	1588	**RID Class No.**	6.1
Proper Shipping Name:	CYANIDES, INORGANIC, SOLID, N.O.S (4% Potassium cyanide)	**RID Pack Group:**	6.1
		CEFIC TEC-R No.	61GT5-I, 61GT5-I-Cy
Hazchem Code:	2X	**ADR Class:**	6.1:Toxic Substances
ADR Class No.	6.1	**ADR Label No:**	6.1
ADR Pack Group:	III		

IMDG:

IMDG Class:	6.1	**IMDG Pack Group:**	III
UN No. (Sea):	1588	**MFAG:**	18
Proper Shipping Name:	CYANIDES, INORGANIC, SOLID, N.O.S (4% Potassium cyanide)	**IMDG Page No:**	6.1
EMS:	F-A, S-A		
Marine pollutant:	Yes		

IATA:

Air Class:	6.1	**Air Pack Group:**	III
UN Air No.	1588		
Proper Shipping Name:	CYANIDES, INORGANIC, SOLID, N.O.S (4% Potassium cyanide)		

14.6 Special precautions for user.
Handle with care.

15. REGULATORY INFORMATION.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.
No data available

15.2 Chemical Safety Assessment.
A chemical safety assessment has not been carried out for this product.

16. OTHER INFORMATION

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

Acute Tox.	Accute Toxicity.
Aquatic Acute	Accute aquatic toxicity.
Aquatic Chronic	Chronic Aquatic toxicity
EUH032	Contact with acids liberates very toxic gas.
H290	May be corrosive to metals
H300	Fatal If Swallowed.
H311	Toxic in contact with skin.
H330	Fatal if inhaled.
H371	May caused damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Met.Corr.	Corrosive to metals.
STOT RE	Specific Target Organ Toxicity - Repeated Exposure.
STOT SE	Specific Target Organ Toxicity - Single Exposure.

Further Information

All the above information is based on current knowledge at the time of publication and follows stipulated regulations. Diagnostic Reagents Ltd is not responsible for any errors or lack of information give in the above literature. The information contained in this SDS does not constitute an assessment of work place risks and is intended only as a guide to the appropriate precautionary handling of a material by a trained person using this product. The customer should undertake a formal COSHH assessment which should ensure that employees are aware of the hazards / precautions detailed in this SDS. The COSHH assessment should ensure that the recommended safety equipment is available and where applicable, that the exposure limits are not being exceeded. Diagnostic Reagents Ltd will not therefore be responsible for damages resulting from use of or reliance upon this information.