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

1.1 Product identifiers

Product name : Hyamine Hydroxide
Product number : HTS05
Brand : Meridian Biotechnologies Ltd
REACH NO. : A registration number is not available for this mixture. All the substances used within the mixture are either; Pre-REACH registered, fully REACH Registered, exempt from registration or the annual tonnage does not require registration.

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

Sector of Use : SU24 Scientific research and development
Application of the substance / the mixture : Liquid Scintillation Cocktail

1.3 Details of the supplier of the safety data sheet

Company : Meridian Biotechnologies Ltd, Unit 6,
Epsom Downs Metro Centre,
Waterfield, Tadworth, Surrey KT20 5LR
United Kingdom
Telephone : +44 (0) 20 8397 8316
Fax : +44 (0) 20 8391 1373
E-mail address : info@meridian-biotech.com
Further information obtainable from : Product Safety Department

1.4 Emergency telephone numbers:

During normal opening times: +44 (0) 20 8397 8316
After hours: +44 (0) 7971000273

SECTION 2: Hazards Identification

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

Flammable liquid	Category 2	H225
Acute toxicity -oral	Category 3	H301
Acute toxicity - Dermal	Category 3	H311
Skin corrosion / irritation	Category 1B	H314
Acute toxicity - Inhalation	Category 3	H331
Specific Target Organ Toxicity - SINGLE EXPOSURE	Category 1	H370

For the full text of the H-Statements mentioned here - see section 16

2.2 Label elements
Classification according to Regulation (EC) No 1272/2008

Hazard pictograms




GHS02 **GHS05** **GHS06** **GHS08**

Signal word **Danger**

Cont...

Hazard statements

H225	Highly flammable liquid and vapour
H301+311+331	Toxic if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H370	Causes damage to organs

Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE / DOCTOR.
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 person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously 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

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with non-hazardous additions.

Hazardous components:

Benzethonium hydroxide				
CAS #: 498-77-1 EC NUMBER: 684-540-8 REACH:N/a	Skin corrosion	Category 1B	H314	40-50%
Methanol				
CAS #: 67-56-1 EC NUMBER:200-659-6 REACH: 01-2119433307-44-0000	Flammable liquid Acute toxicity -oral Acute toxicity - Inhalation Acute toxicity - Dermal Specific Target Organ Toxicity - SINGLE EXPOSURE	Category 2 Category 3 Category 3 Category 3 Category 1	H225 H301 H331 H311 H370	50-60%

For the full text of the H-Statements mentioned here - see section 16

SECTION 4: First Aid Measures

4.1 Description of first aid measures

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

If inhaled: Move person into fresh air.
In case of contact with skin contact: Wash off with plenty of water.
In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Protect unharmed eye.
If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing agents: Carbon Dioxide, dry powder or water spray.
Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for fire-fighters

Special Protective equipment: Wear self-contained respiratory protective device.
Wear fully protective suit.

Further Information: Cool closed containers exposed to fire with water spray.
Contaminated water must not be discharged into drains.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment and ensure adequate ventilation.
Keep unprotected persons away.

Special precautions: Particular danger of slipping on leaked/spilled product.

6.2 Environmental precautions

Environmental precautions: Inform respective authorities in case of seepage into water course.
Do not allow to enter surface or ground water.
Dilute with plenty of water.
Collect spillage

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Absorb with liquid binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Pick up mechanically.
Dispose in according to local regulations (see section 13).

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Advice on safe handling: Wear personal protective equipment.
Avoid contact with skin and eyes and clothing.
Avoid breathing.
Ensure good ventilation/exhaustion at the workplace.
Use only in area provided with appropriate exhaust ventilation.
Use explosion-proof equipment and non spark tools.
Prevent formation of aerosols.

Information about fire and explosion protection: Keep away from sources of ignition.
Take precautionary measures against static discharges.
Do not smoke.

Cont...

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
No special requirements.

Information about storage in one common storage facility:
Store in a dry, cool and well ventilated place.

Further information about storage conditions:
Keep container tightly sealed.
Protect from exposure to the light.

7.3 Specific end use(s)
Specific use (s):
Advised temperature of use 20-25°C.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control parameters

Components with workplace control parameters:

Component	CAS - No	Exposure	Value
Methanol	67-56-1	STEL TWA	250 ppm, 333 mg/m^3 200 ppm 266 mg/m^3

8.2 Exposure controls
General protective and hygienic measures:
Handle in accordance with good industrial hygiene and safety practice.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Wear suitable gloves, body and eye protection and a face shield.

Personal Protective Equipment:
Respiratory protection:
No personal respiratory protective equipment normally required.
Skin protection:
Handle with protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Splash contact
Material: Nitrile-rubber
Minimum layer thickness: 0.4 mm
Break through time: 30 min
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye / face protection:
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU).

Cont...

Body protection:	Protective work clothing – complete suit protecting against chemicals. The type of protective clothing must be selected according to the concentration and amount of the dangerous substance at the specified workplace.
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Form:	Colourless
Colour:	According to specification
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	>12
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	65°C
Flash point:	11°C
Flammability (solid, gaseous):	Not applicable
Ignition temperature:	470°C
Decomposition temperature:	Not determined
Self-igniting:	Product is not self igniting
Danger of explosion:	Product does not present explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapour pressure:	35 mm Hg @ 20°C
Density at 20 °C:	0.93 gm /cm^3
Relative density	Not determined
Vapour density	Not determined
Evaporation rate	Not determined
Solubility in / Miscibility with water:	Fully miscible
Particle size	Not applicable
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	
Dynamic:	Not determined
Kinematic:	Not determined

9.2 Other information	No further relevant information available.

SECTION 10: Stability and Reactivity

10.1 Reactivity:	No data available
10.2 Chemical stability	Stable under recommended storage conditions. No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions:	Reacts with strong oxidising agents and flammable substances.
10.4 Conditions to avoid	Light, ignition sources, excess heat, exposure to moist air.
10.5 Incompatible materials:	Strong oxidising agents such as nitrates, perchlorates or sulphuric acid. Will attack some forms of plastic, rubber and coatings. May react with metallic aluminium and generate hydrogen gas.
10.6 Hazardous decomposition products:	Toxic fumes of carbon monoxide, carbon dioxide and formaldehyde when heated to decomposition.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Component	CAS - No	LD50 / 48 hours
Methanol	67-56-1	LD50 1,187 - 2,769 mg/kg (rat) oral LD50 17,100 mg/kg (rabbit) dermal LC50 128.2 mg/l/4H (rat) inhalation, vapours

Skin corrosion / irritation: Causes serious skin damage / burns.
Serious eye damage / eye irritation: Causes severe skin burns and damage to eye.
Respiratory sensitisation: Based on available data, classification criteria not met
Germ cell mutagenicity: Based on available data, classification criteria not met.
Carcinogenicity: Based on available data, classification criteria not met.
Reproductive toxicity: Based on available data, classification criteria not met.
Specific Target Organ Toxicity – Single Exposure: Causes damage to organs
Specific Target Organ Toxicity – Repeated Exposure: Based on available data, classification criteria not met.
Aspiration hazard: Harmful if swallowed.
Additional information: The toxicological properties have not been fully investigated.

SECTION 12: Ecological Information

12.1 Toxicity

Aquatic toxicity:

Component	CAS - No	EC50
Methanol	67-56-1	Daphnia magna (Water flea) >10,000 mg/l/4H

12.2 Persistence and degradability: Rapidly Biodegradable

12.3 Bio accumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB Assessment:
PBT: Not applicable.
vPvB: Not applicable

12.6 Other adverse effects
Additional ecological information:
General notes:

Methanol: When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to exist in the aerosol phase with a short half-life. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into air, this material is expected to have a half-life between 10 and 30 days. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Product: Must not be disposed together with household garbage.

Uncleaned Packaging: Disposal must be made according to official regulations.

SECTION 14: Transport Information

14.1 UN-Number

ADR, ADN, IMDG, IATA UN3286

14.2 UN proper shipping name -
ADR, ADN, IMDG, IATA FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S (Methanol)

14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA
Class 3, 6, 8

14.4 Packing group
ADR, IMDG, IATA II

14.5 Environmental hazards:
Marine pollutant: No

14.6 Special precautions for user Warning: FLAMMABLE LIQUID, CORROSIVE
Danger code (Kemler): 30
EMS Number: F-E,S-E

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
Transport category 3
Tunnel restriction code D/E
IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation": FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S (Methanol), 3 (6.1,8), II

SECTION 15: Regulatory Information

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

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other Information

Hazard statements

H225	Highly flammable liquid and vapour
H301+311+331	Toxic if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H370	Causes damage to organs

Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE / DOCTOR.
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 person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

This based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)