Effective date: 24/03/25	Hy-Labs Cat. No:	**MSDS FORMAT**	
Doc. No: **MSDS-AG002/34-3**	**AG002/34-3**	**MATERIAL SAFETY DATA SHEET**	Replace Doc: NA

1- Product and Company Identification

Product Name	**HY-Agarose Gel 2% TEA+ETBR**
Reference number	**AG002/34-3**
Manufacturer	**Hy-Laboratories Ltd.** Park Tamar, Rehovot, 76326, Israel Tel: 972-8-9366475 Fax: 972-8-9366474

2- Composition, Information on Ingredients

Ingredients Name	**Cas #**
Ethidium Bromide	1239-45-8
Tris (hydroxymethyl) aminomethane	77-86-1
Acetic acid (glacial) 100% anhydrous for analysis EMSURE® ISO	64-19-7
Sodium hydroxide pellets for analysis EMSURE® ISO	1310-73-2
EDTA (Ethylenediaminetetraacetic acid disodium salt dihydrate) SIGMA	6381-92-6
Water	7732-18-5

3- Hazard Specifications

Classification (REGULATION (EC) No 1272/2008)	Flammable liquid, Category 3, H226 Skin corrosion, Category 1A, H314 Skin irritation (Category 2) Eye irritation (Category 2) Specific target organ toxicity - single exposure (Category 3) Corrosive to metals, H290 Acute toxicity, (Category 4) H332: Harmful if inhaled. Specific target organ toxicity- repeated exposure, (Category 2), Respiratory Tract H373: May cause damage to organs through prolonged or repeated exposure if inhaled.
Classification (67/548/EEC or 1999/45/EC)	C; R35 R10, C;R35, C corrosive R-phrases 10-35 Flammable. Causes severe burns S-phrases 23-26-45 Do not breath vapour. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) S-phrase 26-36/37/39-45 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you fell unwell, seek medical advice immediately (show the label where possible)
Labelling (Regulation (EC) No 1272/2008)	
Hazard statements	H226 Flammable liquid and vapour H290 May be corrosive to metals

	H314 Causes severe skin burns and eye damage H315 Causes skin irritation H319 Causes serious eye irritation H335 May cause respiratory irritation Hazard Statements H332 Harmful if inhaled. H373 May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled. Precautionary Statements P260 Do not breathe dust. P271 Use only outdoors or in a well-ventilated area. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P314 Get medical advice/ attention if you feel unwell. P501 Dispose of contents/ container to an approved waste disposal plant.
Precautionary statements	P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray P280 Wear protective gloves/ protective clothing / eye protection / face protection P301+ P330+ P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting P307 + P309+ P310 IF exposed: Immediately call a POISON CENTER or doctor/physician P305+ P351+ P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and eas to do. continue rinsing
General Information	Harmful if swallowed, Very Toxic. Irritating to eye, skin and respiratory system. Chronic- Possible risk of irreversible effects. May alter genetic material.
4- First Aid Measures	
Skin	Wash skin thoroughly with plenty waters for at least 15 minutes. Swab with polyethylene glycol 400. Remove contaminated clothing and shoes, Seek medical advice.
Eyes	Wash out eye with plenty waters for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Remove contact lenses. Seek medical advice.
Inhalation	Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Make the victim drink water (two glasses at most), avoid vomiting (risk of perforation), call a physician immediately. Do not attempt to neutralize
Most imortant symptoms and effects, both acute and delayed	Irritation and corrosion, irritant effecs, bronchitis, shortness of breath, gastric spasms, nausea, vomiting, circulatory collapse, shock, risk of blindness, death!

	Risk of corneal clouding

5- Fire Fighting Measures

Extinguishing Media	Use water spray, foam, dry chemical powder, or carbon dioxide. Water, Foam Carbon dioxide (CO2) Dry powder
Special Risks	Combustial material, vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire. Fire may cause evolution evolution of: acetic acid vapours. Emits toxic fumes under fire conditions.
Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Sodium oxides Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.
Protective equipment for firefighters	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Suppress (knock down) gases/ vapours/ mists with a water spray jet. Cool closed caontainers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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6- Accidental Release Measures	
General Information	Use proper personal protective equipment (see section 8)
Personal Precautions	Advice for non-emergency personnel: Avoid substance contact. AVoid inhalation of dusts. Ensure adequate ventilation. Evacuate the dager area, abserve emergency procedures, consult an expert. Wear appropriate protective clothing. Advice for emergency responders: Protective equipment see section 8.
Environmental precautions	Do not empty into drains. Risk of explosion
Methods and materials for containment and cleaning uo	Cover drains. Collect, bind and dump off spills. Observe possible material restrictions (see sections 7.2 and 10.5). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts
Spill	Add comercial bleach, absorb with inert material and place in suitable container. Clean immediately, observing precautions (see section 8). Provide ventilation.
7- Handling and Storage	
Precautions for safe handling	Observe label precautions
Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge
Storage	Store at 2-8°C. Keep bottle tightly closed in a well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Specific and uses	Avoid contact with eyes, skin and clothing. Avoid formation of dust and aerosoles. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Wash thoroughly after handling. Keep container tightly closed. Avoid ingestion and inhalation.Use with adequate ventilation.
8- Exposure Controls, Personal Protection	
Engineering measures	Eyewash facility and Safety shower. Use adequate ventilation. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
Personal Protective Equipment	Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handeled. The resistance of the protective equipment should be enquired at the respective supplier. **Hygiene measures** - immediately change contaminated clothing. Apply preventive skin protection. Wash handsand face after working with substance. **Hands**- Compatible chemical resistant gloves (such as nitrile rubber). **Eyes**- Chemical safety goggles. **Clothing**- Wear appropriate protective clothing to prevent skin exposure.

	Respirators- Follow the NIOSH, OSHA or CEN respirator regulation. Where risk assesment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) repirator.
Engineering controls	Eyewash facility and Safety shower. Use adequate ventilation. Do not empty into drains
9- Physical and Chemical Properties	
Physical state	Gel
10- Stability and Reactivity	
Reactivity	Vapour/air - mixtures are explosive at intense warming
Chemical stability	Stable under recommended storage conditions. Materials to avoid: Strong oxidizing agents. Conditions to avoid: Excess heat.
Possibility of hazardous reactions	Risk of explosion with: Strong oxidizing agents, peroxi compounds, perchloric acid, chromosulfuric acid, metals, light metals, nitrates, fuming sulfunic acid, phosphorous halides, hydrogen peroxide Violent reactions possible with: nitriles, metals, iron, zinc, magnesium, alkali, hydroxides, nonmetallic halides, alkalineearth metals, ammonium compounds, cyanides, organic nitro compounds, organic combustible substances, phenols, acids, ethanolamine, acetic anhydride, water, aldehydes, alcohols, halogen-halogen compounds, chlorosulfonic acid, strong alkalis, nitric acid
Conditions to avoid	A range from approx. 15 kelvin below the flash point is to be rated as critical. Temperatures <17°C
Incompatible materials	Aluminium, various plastics, brass, metals, metal alloys, zinc, tin
11- Toxicological Information	
Acute toxicity	**LD50 Oral - rat - 5.900 mg/kg** **Skin**- skin irritation, may be harmful if absorbed through the skin. The substance was found to cause burns when tested on rabbits. **Ingestion** - severe burns of the mouth and throat, as well as a danger of perforation of the oesophagous and the stomach **Eye-** eye irritation. The substance was found to cause burns when tested on rabbits. Causes serious eye damage ans risk of blindness. **Inhalation**- irritating to mucous membranes and upper respiratory tract, cough, shortness of breath, possible damages to the respiratory tract. May be harmful if inhaled. **Ingestion**- May be harmful if swallowed.
Chronic exposure	**Mutagen-** Laboratory experiments have shown mutagenic effects. **Ames test:** negative. **Teratogenicity -** Did not show teratogenic effects in animal experiments.
12- Ecological Information	
Ecological measures	Cause DNA damage and mutations in mammalian somatic cells.

Toxicity to fish	Species: oncorhynchus mykiss (rainbow trout) - LC50 Dose: 45.4 mg/l Exposure time: 96h
Toxicity to daphnia and other aquatic ivertibrates	Species: Daphnia magna (water flea) - EC50 Dose: 76 mg/l Exposure time: 24h Daphnia magna (water flea) - EC50 Dose: 47 mg/l Exposure time: 16h
Toxicity to algea	Species: Scenedesmus quadricauda (Green algea) - IC5 Dose: 4.000 mg/l Exposure time: 24h
Toxicity to bacteria	Species: Pseudomonas putida - EC5 Dose: 2.850 mg/l Exposure time: 16h Species: Photobacterium phosphoreum - EC50 Dose: 11 mg/l Exposure time: 15min
Acute inhalation toxicity	Species: rat - LCLO Dose: 39.95 mg/l Exposure time: 4h Rat- LC50 Dose: 11.4 mg/l Exposure time: 4h
Acute dermal toxicity	Species: rabbit - LD50 Dose: 1.060 mg/kg Skin irritation - caues burns and severe burns
Eye irritation	Causes severe burns. Risk of corneal clouding. Risk of perforation! Risk of serious damage to eyes Risk of blindness!
Acute oral toxicity	Species: rat - LD50 Dose: 3.310 mg/kg Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach, nausea, vomiting, pulmonary failure possible after aspiration of vomit
Persistance and degradability	Biodegradability - 99%. Exposure time: 30d Method: OECD Test guideline 301D 95%. Exposure time: 5d Method: OECD Test guideline 301D
Biochemical Oxygen Demand (BOD)	880mg/g (5d) (Lit.)
Ratio BOD/ThBOD	BOD5 76%
Bioaccumulative potential	Partition coefficient: n-octanol/water Log pow: -0.17 Method: experimental
Other adverse effects	Harmful effect due to pH shift, forms corrosive mixtures with water even if diluted, neutralisation possible in waste water treatment plants, further information on ecology, do not allow to run into surface waters, wastewater or soil

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13- Disposal Information

Disposal Information	Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance to all local and national regulations. See www.retrologistik.com for processes regarding the return of chemicals and containers.

14- Transport Information

ADR/RID	UN 1823 Sodium hydroxide, solid, 8, II UN 2789 Acetic acid, glacial, 8 (3), II
IATA	UN 1823 Sodium hydroxide, solid, 8, II UN 2789 Acetic acid, glacial, 8 (3), II
IMDG	UN 1823 Sodium hydroxide, solid, 8, II EmS F-A S-B UN 2789 Acetic acid, glacial, 8 (3), II EmS F-A S-C

15- Regulatory Information

Risk Phrases	Very toxic. Harmful if swallowed. Irritating to eyes, respiratory system and skin. Possible risk of irreversible effects.
Safety Phrases	Wear suitable protective clothing, gloves and eye/face protection In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately.
EU regulations	Major Accident Hazard - 96/82/EC Legislation - Flammable, 6 Occupational restrictions - Take note of Dir 94/33/EC on the protection of young people at work
National legislation	Storage class VCI - 3 Flammable Liquids , 8 B combustible, corrosive substances

16- Other Information

For In-Vitro use only.
H226 - Flammable liquid and vapour
H290 - may be corrosive to metals
H314 - causes severe skin burns and eye damage
R10 - Flammable
R35 - Causes severe burns
The information in this MSDS is based on current and reliable sources but does not purport to be all inclusive and shall be used only as a guide.