Aerospray® TB Reagent B, Methylene Blue Concentrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Aerospray® TB Reagent B, Methylene Blue Concentrate
Product code : SS-161BMB

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Laboratory chemical
Recommended use : Professional use only

1.4. Supplier's details

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USA
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qara_ebs@elitechgroup.com - www.elitechgroup.com

1.5. Emergency phone number

Emergency number : Contact your distributor or poison control center in your country.
InfoTrac Emergency Response: Calls within the USA, phone: 1-800-535-5053. Calls outside the USA, phone: +1 352-323-3500 (call collect)
Customer ID: #90104 (NOTE: this number is required when a customer calls into either phone number above).

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquid, Category 3	H226	Flammable liquid and vapor.
Corrosive to metals, Category 1	H290	May be corrosive to metals.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H226 - Flammable liquid and vapor
H290 - May be corrosive to metals
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P233 - Keep container tightly closed.
P234 - Keep only in original packaging.
P243 - Take action to prevent static discharges.
P280 - Wear protective gloves, protective clothing, eye protection.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 - In case of fire: Use ABC-powder, alcohol resistant foam, BC-powder, carbon dioxide (CO2), D-powder to extinguish.
P390 - Absorb spillage to prevent material-damage.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
methylene blue	CAS-No.: 61-73-4	1 – 5	Acute Tox. 4 (Oral), H302
malic acid, D/L-	CAS-No.: 617-48-1	0.5 – 3	Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Wash skin with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center/doctor/physician if you feel unwell.

Personal protection for first-aid responders. : First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : ABC powder. Alcohol-resistant foam. BC powder. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.

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Environmental precautions : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment.

Hygiene measures : Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

7.2. Conditions for safe storage, including incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.

Storage conditions : Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store in corrosive resistant container with a resistant inner liner. Keep only in original container.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Metals.

Packaging materials : Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Materials for protective clothing:
Wear protective clothing

Hand protection:				
Wear protective gloves				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Disposable gloves	Latex, Nitrile rubber (NBR)	3 (> 60 minutes)	0.1 - 0.15	

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear suitable respiratory equipment in case of insufficient ventilation

Personal protective equipment symbol(s):



Other information:
Do not eat, drink or smoke during use.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Color	:	Dark blue
Odor	:	Characteristic
Odor threshold	:	No data available
pH	:	4.5 (4 – 5)
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	≈ 38 (32 – 43) °C
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Water: No available data
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

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9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor.

10.2. Chemical stability

Flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases. metals.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

malic acid, D/L- (617-48-1)	
LD50 oral rat	9300 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 1.306 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (dust), 14 day(s))
ATE US (oral)	9300 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h

methylene blue (61-73-4)	
LD50 oral rat	1180 mg/kg (Rat, Oral)
ATE US (oral)	1180 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 4.5 (4 – 5)

malic acid, D/L- (617-48-1)	
pH	2.4 (1 %)

methylene blue (61-73-4)	
pH	4 (1 %)

Serious eye damage/irritation : Not classified
pH: 4.5 (4 – 5)

malic acid, D/L- (617-48-1)	
pH	2.4 (1 %)

methylene blue (61-73-4)	
pH	4 (1 %)

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

methylene blue (61-73-4)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

malic acid, D/L- (617-48-1)	
Viscosity, kinematic	Not applicable

methylene blue (61-73-4)	
Viscosity, kinematic	Not applicable (solid)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified

malic acid, D/L- (617-48-1)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Read-across, GLP)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP)

methylene blue (61-73-4)	
LC50 - Fish [1]	45 mg/l (96 h, Pimephales promelas, Literature study, Anhydrous form)
EC50 - Crustacea [1]	2.26 mg/l (48 h, Daphnia magna, Literature study, Anhydrous form)

12.2. Persistence and degradability

Aerospray® TB Reagent B, Methylene Blue Concentrate	
Persistence and degradability	Not established.

malic acid, D/L- (617-48-1)	
Persistence and degradability	Readily biodegradable in water, Not established.
ThOD	0.718 g O_2/g substance
BOD (% of ThOD)	0.65

methylene blue (61-73-4)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

Aerospray® TB Reagent B, Methylene Blue Concentrate	
Bioaccumulative potential	Not established.

malic acid, D/L- (617-48-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.27 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 24 °C)
Bioaccumulative potential	Not bioaccumulative. Not established.

methylene blue (61-73-4)	
Partition coefficient n-octanol/water (Log Pow)	0.75 (Estimated value, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

malic acid, D/L- (617-48-1)	
Ecology - soil	Highly mobile in soil.

methylene blue (61-73-4)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.901 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

Other information : Avoid release to the environment.

SECTION 13 Disposal considerations

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	:	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.
Additional information	:	Handle empty containers with care because residual vapors are flammable. Flammable vapors may accumulate in the container. Do not re-use empty containers.
Ecological waste information	:	Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

UN-No. (DOT)	:	UN1170
UN-No. (TDG)	:	Not regulated
UN-No. (IMDG)	:	1170
UN-No. (IATA)	:	1170

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	:	Ethanol solutions
Proper Shipping Name (TDG)	:	Not regulated
Proper Shipping Name (IMDG)	:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper Shipping Name (IATA)	:	Ethanol solution

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	:	3
Hazard labels (DOT)	:	3



TDG

Transport hazard class(es) (TDG)	:	Not regulated

IMDG

Transport hazard class(es) (IMDG)	:	3
Hazard labels (IMDG)	:	3



IATA

Transport hazard class(es) (IATA)	:	3
Hazard labels (IATA)	:	3



14.4. Packing group

Packing group (DOT)	:	III
Packing group (TDG)	:	Not regulated
Packing group (IMDG)	:	III
Packing group (IATA)	:	III

14.5. Environmental hazards

Other information	:	No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

UN-No. (DOT)	:	UN1170
DOT Special Provisions (49 CFR 172.102)	:	24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III. B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	4b;150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	220 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

TDG

Not regulated

IMDG

Special provision (IMDG)	:	144, 223
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1

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Packing instructions (IMDG)	:	P001, LP01
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T2
Tank special provisions (IMDG)	:	TP1
EmS-No. (Fire)	:	F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	:	S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	Colorless, volatile liquids. Pure ETHANOL: flashpoint 13°C c.c. Explosive limits: 3.3% to 19%. Miscible with water.

IATA

Special provision (IATA)	:	A3, A58, A180
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y344
PCA limited quantity max net quantity (IATA)	:	10L
PCA packing instructions (IATA)	:	355
PCA max net quantity (IATA)	:	60L
CAO packing instructions (IATA)	:	366
CAO max net quantity (IATA)	:	220L
ERG code (IATA)	:	3L

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

malic acid, D/L-	CAS-No. 617-48-1	0.5 – 3%

15.2. International regulations

CANADA

malic acid, D/L- (617-48-1)

Listed on the Canadian DSL (Domestic Substances List)

methylene blue (61-73-4)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Other information : None.

Full text of hazard classes and H-statements	
H226	Flammable liquid and vapor
H290	May be corrosive to metals
H302	Harmful if swallowed
H319	Causes serious eye irritation
H332	Harmful if inhaled

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Reason for change: updating to latest format and company header logo.

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