

05/25/2023

### Kit Components

Product code	Description
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<b>H5041</b>	<b>Ethidium Bromide Solution, Molecular Grade</b>
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Components:

H504	Ethidium Bromide Solution
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**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 05/25/2023

Reviewed on 05/25/2023

## 1 Identification

**Product identifier**

**Trade name:** Ethidium Bromide Solution

**Article number:** H504

**Application of the substance / the mixture** For Laboratory Use

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

**Information department:** SDS author: [chemicalregulatory@promega.com](mailto:chemicalregulatory@promega.com)

**Emergency telephone number:**

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

## 2 Hazard(s) identification

**Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3 H331 Toxic if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity 2 H341 Suspected of causing genetic defects.

**Label elements**

**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**



GHS06 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Ethidium bromide

**Hazard statements**

Toxic if inhaled.

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*Suspected of causing genetic defects.*

**Precautionary statements**

*Obtain special instructions before use.*

*Do not handle until all safety precautions have been read and understood.*

*Avoid breathing dust/fume/gas/mist/vapors/spray*

*Use only outdoors or in a well-ventilated area.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF exposed or concerned: Get medical advice/attention.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

**Classification system:**

**NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**

Toxic

Highly Toxic

**Primary route(s) of entry:** Inhalation

**Target Organ(s):** Not applicable or unknown

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:**

*The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.*

**Dangerous components:**

1239-45-8	Ethidium bromide	1-5%
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**Additional information:** For the wording of the listed risk phrases refer to section 15.

### 4 First-aid measures

**Description of first aid measures**

**General information:**

*Immediately remove any clothing soiled by the product.*

*Remove breathing apparatus only after contaminated clothing have been completely removed.*

*In case of irregular breathing or respiratory arrest provide artificial respiration.*

*Take affected persons out into the fresh air.*

*Do not leave affected persons unattended.*

*Seek medical treatment.*

*Provide oxygen treatment if affected person has difficulty breathing.*

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Medical supervision for at least 48 hours.

**After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Call a doctor immediately.

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Seek medical treatment.

**After swallowing:** If the patient feels unwell or is concerned, obtain medical advice.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed**

None

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture**

None known

No further relevant information available.

**Advice for firefighters** In the case of fire, wear respiratory protective equipment and chemical protective suit.

**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Remove persons from danger area.

Keep people at a distance and stay upwind.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

**Handling:**

**Precautions for safe handling**

Keep receptacles tightly sealed.

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Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Work only in fume cabinet.

**Information about protection against explosions and fires:**

Keep respiratory protective device available.

The product is not flammable.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:** Do not store below -20°C. Protected from light.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed.

**Specific end use(s)** No further relevant information available.

## \* 8 Exposure controls/personal protection

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** The lists that were valid during the creation were used as basis.

**Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

Ensure that washing facilities are available at the work place.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not eat or drink while working.

**Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**Protection of hands:**

Select the glove material considering penetration time, rate of diffusion and degradation time.

**Material of gloves**

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Eye protection:**

Safety glasses

Goggles recommended during refilling.

Use equipment for eye protection tested and approved under government NIOSH standards.

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## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Dark
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 4-7

#### Change in condition

<b>Melting point/Melting range:</b>	0 °C (32 °F)
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Not applicable.  
**Decomposition temperature:** Not determined.

**Ignition temperature:** Product is not selfigniting.

**Danger of explosion:** Product does not present an explosion hazard.

#### Explosion limits:

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.

**Density at 20 °C (68 °F):** 0.9934 g/cm<sup>3</sup> (8.28992 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not determined.

**Evaporation rate** Not determined.

#### Solubility in / Miscibility with

**Water:** Fully miscible.

**Partition coefficient (n-octanol/water):** Not determined.

#### Viscosity:

**Dynamic at 20 °C (68 °F):** 0.0952 mPas

**Kinematic:** Not determined.

#### Solvent separation test

**Water:** 99.0 %

**VOC content:** 0.00 %

**Solids content:** 1.0 %

**Other information** No further relevant information available.

## 10 Stability and reactivity

**Reactivity** No further relevant information available.

#### Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.

**Conditions to avoid** No further relevant information available.

**Incompatible materials:** No further relevant information available.

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**Hazardous decomposition products:** Nitrogen oxides (NO<sub>x</sub>)

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## \* 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

**LD/LC50 values that are relevant for classification:** No data available

#### Primary irritant effect:

**on the skin:** Causes skin irritation.

**on the eye:** No data available.

#### Sensitization:

*In case of skin contact: not sensitising*

*In case of inhalation: not sensitising*

#### Additional toxicological information:

*The product shows the following dangers according to internally approved calculation methods for preparations:*

*OECD test guideline 471, Ames test.*

*Toxic*

#### Carcinogenic categories

##### **IARC (International Agency for Research on Cancer)**

*None of the ingredients are listed.*

##### **NTP (National Toxicology Program)**

*None of the ingredients are listed.*

##### **OSHA-Ca (Occupational Safety & Health Administration)**

*None of the ingredients are listed.*

## \* 12 Ecological information

### Toxicity

**Aquatic toxicity:** *Not harmful to the aquatic environment*

#### Persistence and degradability

*Not available*

*No further relevant information available.*

#### Bioaccumulative potential

*Not known*

*No further relevant information available.*

**Mobility in soil** *No further relevant information available.*

#### Ecotoxicological effects:

**Remark:** *Not available*

#### Additional ecological information:

**General notes:** *No data available.*

#### Results of PBT and vPvB assessment

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

**Other adverse effects** *No further relevant information available.*

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## 13 Disposal considerations

### Waste treatment methods

#### Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.  
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

#### Uncleaned packagings:

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

### UN-Number

DOT, ADR, IMDG, IATA

UN2810

### UN proper shipping name

DOT

Toxic, liquids, organic, n.o.s.

ADR

2810 TOXIC LIQUID, ORGANIC, N.O.S.

IMDG, IATA

TOXIC LIQUID, ORGANIC, N.O.S.

### Transport hazard class(es)

DOT



Class

6.1 Toxic substances

Label

6.1

ADR



Class

6.1 (T1) Toxic substances

Label

6.1

IMDG, IATA



Class

6.1 Toxic substances

Label

6.1

### Packing group

DOT, ADR, IMDG, IATA

III

### Environmental hazards:

Marine pollutant:

No

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Trade name: *Ethidium Bromide Solution*

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<b>Special precautions for user</b>	<i>Warning: Toxic substances</i>
<b>Hazard identification number (Kemler code):</b>	<i>60</i>
<b>EMS Number:</b>	<i>F-A,S-A</i>
<b>Stowage Category</b>	<i>A</i>
<b>Stowage Code</b>	<i>SW2 Clear of living quarters.</i>

<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	<i>Not applicable.</i>
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**Transport/Additional information:****ADR**

<b>Excepted quantities (EQ)</b>	<i>Code: E1</i>
	<i>Maximum net quantity per inner packaging: 30 ml</i>
	<i>Maximum net quantity per outer packaging: 1000 ml</i>

**IMDG**

<b>Limited quantities (LQ)</b>	<i>5L</i>
<b>Excepted quantities (EQ)</b>	<i>Code: E1</i>
	<i>Maximum net quantity per inner packaging: 30 ml</i>
	<i>Maximum net quantity per outer packaging: 1000 ml</i>

<b>UN "Model Regulation":</b>	<i>UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. 6.1, III</i>
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## 15 Regulatory information

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

**Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act) Inventory:**

All ingredients are listed.

**Hazardous Air Pollutants**

None of the ingredients are listed.

**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**New Jersey Right-to-Know List:**

None of the ingredients are listed.

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**Pennsylvania Right-to-Know List:**

None of the ingredients are listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**TLV (Threshold Limit Value)**

None of the ingredients are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Signal word** Danger

**Hazard-determining components of labeling:**

Ethidium bromide

**Hazard statements**

Toxic if inhaled.

Suspected of causing genetic defects.

**Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Chemical safety assessment**

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

**16 Other information**

\*This information is 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.

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

chemicalregulatory@promega.com

**Contact:**

**Date of preparation / last revision** 05/25/2023

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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DOT: US Department of Transportation  
IATA: International Air Transport Association  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3  
Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2

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