

1 Identification

- **Product identifier**
- **Trade name:** DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION
- **Article number:** 204484
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Dodecyltrimethylammonium Chloride

Isopropyl Alcohol

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation. May cause drowsiness or dizziness.

- **Precautionary statements**

Wear protective gloves / eye protection / face protection.

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 1)

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

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

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:**

Mixture of substances listed below with nonhazardous additions.

Mixture: consisting of the following components.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: **DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION**

(Contd. of page 2)

· Dangerous components:

CAS: 112-00-5 EINECS: 203-927-0 RTECS: JR2122500	Dodecyltrimethylammonium Chloride	25-50%
CAS: 67-63-0 EINECS: 200-661-7 RTECS: NT8050000	Isopropyl Alcohol	25-50%

4 First-aid measures**· Description of first aid measures****· General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.

· After inhalation: If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.

· After skin contact: Wash off with soap and plenty of water. Consult a Doctor.

· After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms persist consult a Doctor.

· Information for doctor:

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

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Special hazards arising from the substance or mixture No further relevant information available.

· Advice for firefighters

· Protective equipment: No special measures required.

6 Accidental release measures**· Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· 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).

Pick up mechanically, 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 8 for information on personal protection equipment.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15 - 30 °C
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

67-63-0 Isopropyl Alcohol

PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm
BEI	

- **Ingredients with biological limit values:**

67-63-0 Isopropyl Alcohol

BEI	40 mg/L urine end of shift at end of workweek Acetone (background, nonspecific)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: **DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION**

(Contd. of page 4)

· **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:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

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.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Indeterminate
Odor threshold:	Not determined.

pH-value:	Not determined.
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· **Change in condition**

Boiling point/Boiling range:	80 °C (176 °F)
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Flash point:	18 °C (64 °F)
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Flammability (solid, gaseous):	Not applicable.
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Ignition temperature:	425 °C (797 °F)
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
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· **Explosion limits:**

Lower:	Not Applicable
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(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 5)

Upper:	Not Applicable
· Vapor pressure at 20 °C (68 °F):	43.2 hPa (32 mm Hg)
· Density:	Not Applicable
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	Not Determined
· Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	50.0 %
VOC content:	50.0 %
	500.0 g/l / 4.17 lb/gl
· 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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
112-00-5 Dodecyltrimethylammonium Chloride		
Oral	LD50	300 mg/kg (mouse)
67-63-0 Isopropyl Alcohol		
Oral	LD50	5045 mg/kg (rat)
Dermal	LD50	12800 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Irritating effect.
 - **Sensitization:** No sensitizing effects known.
 - **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Harmful
Irritant

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 6)

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

67-63-0 Isopropyl Alcohol

3

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity:

67-63-0 Isopropyl Alcohol

Oral LC50 / 96 h 9640 mg/L (Pimephales promelas)

· Persistence and degradability No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

Can not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

· Recommendation: Discard must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleaning agents.

14 Transport information

· UN-Number

· DOT, ADR, IMDG, IATA

UN1993

· UN proper shipping name

· DOT

Flammable liquids, n.o.s. (Isopropanol)

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 7)

· **ADR** 1993 Flammable liquids, n.o.s. (Isopropanol), ENVIRONMENTALLY HAZARDOUS

· **IMDG** FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL), Dodecyltrimethylammonium Chloride), MARINE POLLUTANT

· **IATA** Flammable liquid, n.o.s. (Isopropanol)

· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids

· **Label** 3

· **ADR, IMDG**



· **Class** 3 Flammable liquids

· **Label** 3

· **IATA**



· **Class** 3 Flammable liquids

· **Label** 3

· **Packing group**

· **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: Dodecyltrimethylammonium Chloride

· **Marine pollutant:** Yes (DOT)
Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids

· **Danger code (Kemler):** 33

· **EMS Number:** F-E, S-E

· **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· **Remarks:** Special marking with the symbol (fish and tree).

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 8)

· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· 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
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUIDS, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS

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 is listed.

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

67-63-0 Isopropyl Alcohol

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

67-63-0 Isopropyl Alcohol

A4

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

None of the ingredients is listed.

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

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 9)

· Hazard pictograms


GHS02 GHS07

· Signal word Danger
· Hazard-determining components of labeling:

Dodecyltrimethylammonium Chloride

Isopropyl Alcohol

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation. May cause drowsiness or dizziness.

· Precautionary statements

Wear protective gloves / eye protection / face protection.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

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

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO2, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

· 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: Quality Control Dept.

· Date of preparation / last revision 07/18/2016 / -

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2016

Reviewed on 07/18/2016

Trade name: DODECYLTRIMETHYLAMMONIUM CHLORIDE, 50% SOLUTION

(Contd. of page 10)

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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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
BEI: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

US