

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Phenol:Chloroform Saturated Solution, pH 6.7
- **Article number:** 802520
- **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:** Product safety department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

## 2 Hazards identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Toxic

Toxic by inhalation, in contact with skin and if swallowed.



Corrosive

Causes burns.



Harmful

Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 1)

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

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

· **Hazard pictograms**



GHS05

GHS06

GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*phenol*

*trichloromethane*

· **Hazard statements**

*Harmful if swallowed.*

*Toxic in contact with skin or if inhaled.*

*Causes severe skin burns and eye damage.*

*Suspected of causing genetic defects.*

*Suspected of causing cancer.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*If medical advice is needed, have product container or label at hand.*

*Keep out of reach of children.*

*Read label before use.*

*IF ON SKIN (or hair): Remove/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.*

*Immediately call a POISON CENTER or doctor/physician.*

*Remove/Take off immediately all contaminated clothing.*

*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 = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 1

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 2)

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 108-95-2 EINECS: 203-632-7 RTECS: SJ 3325000	phenol ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; STOT RE 2, H373; ⚠ Skin Corr. 1B, H314	25-50%
CAS: 67-66-3 EINECS: 200-663-8 RTECS: FS 9100000	trichloromethane ⚠ Flam. Liq. 2, H225; ⚠ Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	25-50%
CAS: 123-51-3 EINECS: 204-633-5 RTECS: EL 5425000	3-methylbutan-1-ol ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H302	≤1%

### 4 First aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call 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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

USA

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 3)

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
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).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **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.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 2-8 °C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **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

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

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

### 108-95-2 phenol

PEL	19 mg/m <sup>3</sup> , 5 ppm Skin
REL	Short-term value: C60* mg/m <sup>3</sup> , C 15.6* ppm Long-term value: 19 mg/m <sup>3</sup> , 5 ppm *15-min; Skin
TLV	19 mg/m <sup>3</sup> , 5 ppm Skin; BEI

(Contd. on page 5)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 4)

### 67-66-3 trichloromethane

PEL Short-term value: C 240 mg/m<sup>3</sup>, C 50 ppm

REL Short-term value: 9.78\* mg/m<sup>3</sup>, 2\* ppm  
\*60-min; See Pocket Guide App. A

TLV 49 mg/m<sup>3</sup>, 10 ppm

### 123-51-3 3-methylbutan-1-ol

PEL 360 mg/m<sup>3</sup>, 100 ppm  
primary and secondary

REL Short-term value: 450 mg/m<sup>3</sup>, 125 ppm  
Long-term value: 360 mg/m<sup>3</sup>, 100 ppm  
primary and secondary

TLV Short-term value: 452 mg/m<sup>3</sup>, 125 ppm  
Long-term value: 361 mg/m<sup>3</sup>, 100 ppm

### · Ingredients with biological limit values:

#### 108-95-2 phenol

BEI 250 mg/g creatinine  
urine  
end of shift  
Phenol with hydrolysis (background, nonspecific)

· **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.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.

#### · 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.

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 5)

**· Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

**· General Information**

**· Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
<b>· Odor:</b>	Characteristic
<b>· Odour threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	62 °C (144 °F)

**· Flash point:** > 55 °C (> 131 °F)

**· Flammability (solid, gaseous):** Not applicable.

**· Ignition temperature:** 595 °C (1103 °F)

**· Decomposition temperature:** Not determined.

**· Auto igniting:** Product is not selfigniting.

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

**· Explosion limits:**

<b>Lower:</b>	1.3 Vol %
<b>Upper:</b>	9.5 Vol %

**· Vapor pressure at 20 °C (68 °F):** 210 hPa (158 mm Hg)

**· Density:** Not determined.

**· Relative density** Not determined.

**· Vapour density** Not determined.

**· Evaporation rate** Not determined.

**· Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix.

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

**· Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**· Solvent content:**

<b>Organic solvents:</b>	42.0 %
<b>VOC content:</b>	42.0 %
	430.0 g/l / 3.59 lb/gal

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 6)

**Solids content:** 58.0 %  
**Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **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:**

### 108-95-2 phenol

Oral	LD50	317 mg/kg (rat)
Dermal	LD50	850 mg/kg (rabbit)

### 67-66-3 trichloromethane

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Toxic  
 Corrosive  
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

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

108-95-2	phenol	3
67-66-3	trichloromethane	2B

- **NTP (National Toxicology Program)**

67-66-3	trichloromethane	R
---------	------------------	---

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

(Contd. on page 8)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**



(Contd. of page 7)

- **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 3 (Self-assessment): extremely hazardous for water  
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even extremely 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:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>                                | <p style="text-align: right;">UN2821</p>                                   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>ADR</b></li> </ul> | <p style="text-align: right;">PHENOL SOLUTION<br/>2821 PHENOL SOLUTION</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>                                |  |
| <div style="text-align: center;">  </div>               |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="text-align: right;">6.1 Toxic substances.<br/>6.1</p>            |
| <ul style="list-style-type: none"> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   |  |
| <div style="text-align: center;">  </div>               |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="text-align: right;">6.1 Toxic substances<br/>6.1</p>             |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>                            | <p style="text-align: right;">II</p>                                       |

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

Trade name: Phenol:Chloroform Saturated Solution, pH 6.7

(Contd. of page 8)

· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Toxic substances
· <b>EMS Number:</b>	F-A,S-A
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN2821, PHENOL SOLUTION, 6.1, II

## 15 Regulatory information

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

### · Section 355 (extremely hazardous substances):

108-95-2	phenol
67-66-3	trichloromethane

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

108-95-2	phenol
67-66-3	trichloromethane

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

108-95-2	phenol
67-66-3	trichloromethane
123-51-3	3-methylbutan-1-ol

### · Proposition 65

#### · Chemicals known to cause cancer:

67-66-3	trichloromethane
---------	------------------

#### · 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:

67-66-3	trichloromethane
---------	------------------

### · Carcinogenic categories

#### · EPA (Environmental Protection Agency)

108-95-2	phenol	I
67-66-3	trichloromethane	NL

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

108-95-2	phenol	A4
67-66-3	trichloromethane	A3

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

67-66-3	trichloromethane
---------	------------------

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

None of the ingredients is listed.

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2013

Reviewed on 02/08/2013

**Trade name: Phenol:Chloroform Saturated Solution, pH 6.7**

(Contd. of page 9)

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

· **Hazard pictograms**



GHS05    GHS06    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*phenol*

*trichloromethane*

· **Hazard statements**

*Harmful if swallowed.*

*Toxic in contact with skin or if inhaled.*

*Causes severe skin burns and eye damage.*

*Suspected of causing genetic defects.*

*Suspected of causing cancer.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*If medical advice is needed, have product container or label at hand.*

*Keep out of reach of children.*

*Read label before use.*

*IF ON SKIN (or hair): Remove/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.*

*Immediately call a POISON CENTER or doctor/physician.*

*Remove/Take off immediately all contaminated clothing.*

*Store locked up.*

*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 MSDS:** *Product safety department*

· **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*

*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*