

## 1 Identification

- **Product identifier**
- **Trade name:** Ready-Red™
- **Article number:** RYRED001
- **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**



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



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 H336 May cause drowsiness or dizziness.

Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**

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

- **Hazard pictograms**



GHS06



GHS07



GHS08

- **Signal word** Danger

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Trade name: **Ready-Red™**

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

Chloroform

Isoamyl Alcohol, ACS

· **Hazard statements**

Combustible liquid.

Harmful if swallowed.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from flames and hot surfaces. – No smoking.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

**IF ON SKIN:** Wash with plenty of water.

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

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

Continue rinsing.

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

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Rinse mouth.

**If skin irritation occurs:** Get medical advice/attention.

**If eye irritation persists:** Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

**In case of fire:** Use for extinction: CO<sub>2</sub>, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

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.

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· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Description:**

Mixture of substances listed below with nonhazardous additions.

Mixture: consisting of the following components.

· **Dangerous components:**

CAS: 67-66-3 EINECS: 200-663-8 RTECS: FS9100000	Chloroform	90-100%
CAS: 123-51-3 EINECS: 204-633-5 RTECS: EL5425000	Isoamyl Alcohol, ACS	2.5-10%

### 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.

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.

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:** Use fire fighting measures that suit the environment.

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

· **Advice for firefighters**

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

### 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

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- **Environmental precautions:** 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.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

67-66-3	Chloroform	2 ppm
123-51-3	Isoamyl Alcohol, ACS	125 ppm

· **PAC-2:**

67-66-3	Chloroform	64 ppm
123-51-3	Isoamyl Alcohol, ACS	1700* ppm

· **PAC-3:**

67-66-3	Chloroform	3,200 ppm
123-51-3	Isoamyl Alcohol, ACS	10000** ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30°C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:**
- **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:**

<b>67-66-3 Chloroform</b>	
PEL	Ceiling limit value: 240 mg/m <sup>3</sup> , 50 ppm
REL	Short-term value: 9.78* mg/m <sup>3</sup> , 2* ppm *60-min; See Pocket Guide App. A
TLV	Long-term value: 49 mg/m <sup>3</sup> , 10 ppm

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**123-51-3 Isoamyl Alcohol, ACS**

PEL	Long-term value: 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

· **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.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Red
<b>Odor:</b>	Indeterminate

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· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b> <b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	unknown °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b> <b>Lower:</b> <b>Upper:</b>	Not Applicable Not Applicable
· <b>Vapor pressure:</b>	Not Applicable
· <b>Density:</b> · <b>Relative density</b> · <b>Vapor density</b> · <b>Evaporation rate</b>	Not Applicable Not determined. Not determined. Not determined.
· <b>Solubility in / Miscibility with</b> · <b>Water:</b>	Not Determined Not determined.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b> <b>Dynamic:</b> <b>Kinematic:</b>	Not determined. Not determined.
· <b>Solvent content:</b> <b>Organic solvents:</b> <b>VOC content:</b>	4.0 % 4.00 % 40.0 g/l / 0.33 lb/gl
· <b>Other information</b>	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.

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## 11 Toxicological information

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

- **LD/LC50 values that are relevant for classification:**

### ATE (Acute Toxicity Estimate)

Oral	LD50	949 mg/kg (rat)
Dermal	LD50	78.9 mg/kg
Inhalative	LC50/4 h	3.13 mg/L

### 67-66-3 Chloroform

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat) 20,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3 mg/L (ATE)

- **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:

Toxic

Harmful

Irritant

- **Carcinogenic categories**

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

67-66-3	Chloroform	2B
85-86-9	Sudan Red BK	3

- **NTP (National Toxicology Program)**

67-66-3	Chloroform	R
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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- **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.

## 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="margin-left: 20px;">UN1888</p>   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul> | <p style="margin-left: 20px;">Chloroform<br/>1888 Chloroform<br/>CHLOROFORM, MARINE POLLUTANT<br/>CHLOROFORM</p>   |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>  | <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="margin-left: 20px;">6.1 Toxic substances</p> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="margin-left: 20px;">6.1<br/>6.1</p>  |
| <ul style="list-style-type: none"> <li>· <b>ADR, IMDG</b></li> </ul>   | <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="margin-left: 20px;">6.1 Toxic substances</p> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="margin-left: 20px;">6.1<br/>6.1</p>  |
| <ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>  | <div style="display: flex; align-items: center; gap: 10px;">  </div> <p style="margin-left: 20px;">6.1 Toxic substances</p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="margin-left: 20px;">6.1<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="margin-left: 20px;">III</p>  |

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· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No Yes (DOT) Symbol (fish and tree)
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Toxic substances
· <b>EMS Number:</b>	F-A,S-A
· <b>Segregation groups</b>	Liquid halogenated hydrocarbons
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1888 CHLOROFORM, 6.1, III

## 15 Regulatory information

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

· **Sara**

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

67-66-3 Chloroform

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

67-66-3 Chloroform

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

67-66-3 Chloroform

· **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 Chloroform

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

67-66-3 Chloroform

B2, L, NL

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· <b>TLV (Threshold Limit Value established by ACGIH)</b>		
67-66-3	Chloroform	A3

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
67-66-3	Chloroform	

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

· **Hazard pictograms**



GHS06

GHS07

GHS08

· **Signal word** *Danger*

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

*Chloroform*

*Isoamyl Alcohol, ACS*

· **Hazard statements**

*Combustible liquid.*

*Harmful if swallowed.*

*Toxic if inhaled.*

*Causes skin irritation.*

*Causes serious eye irritation.*

*Suspected of causing cancer.*

*Suspected of damaging fertility or the unborn child.*

*May cause drowsiness or dizziness.*

*Causes damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.*

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

*Keep away from flames and hot surfaces. – No smoking.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash thoroughly after handling.*

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

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

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

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

*IF ON SKIN: Wash with plenty of water.*

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

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

*Continue rinsing.*

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

*Get medical advice/attention if you feel unwell.*

*Specific treatment (see on this label).*

*Rinse mouth.*

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*Take off contaminated clothing and wash it before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

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

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

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

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· **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** 10/24/2017 / -

· **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

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1