

### Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 02/01/2024

Reviewed on 02/01/2024

#### 1 Identification

- **Product identifier**
- **Trade name: Phenol red**
- **Catalogue number:** 424450, 471040, 471041, 471046, 471040-N
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**  
Tintometer Inc.  
6456 Parkland Drive  
Sarasota, FL 34243  
USA  
phone: (941) 756-6410  
fax: (941) 727-9654  
www.lovibond.us  
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

#### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 3 H226 Flammable liquid and vapor.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS02

- **Signal word** Warning
- **Hazard statements**  
H226 Flammable liquid and vapor.
- **Precautionary statements**  
P233 Keep container tightly closed.
- **Other hazards**  
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.  
Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

#### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Composition and Information on Ingredients:**  
Percent ranges are used due to the confidential product information.

CAS: 78-92-2 EINECS: 201-158-5 Index number: 603-127-00-5 RTECS: EO 1750000	butan-2-ol ⚠ Flammable Liquids 3, H226; ⚠ Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H335-H336	≤2.5%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting.

Seek medical treatment.

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

irritations

Drying-out effect resulting in rough and chapped skin.

resorption

after inhalation:

mucous membrane irritation

coughing

breathing difficulty

headache

drowsiness

after swallowing of large amounts:

cardiovascular disorders

· **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**

Can burn in fire.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Potassium oxide

Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

### 6 Accidental release measures

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

· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

· **Advice for emergency responders:** Protective equipment: see section 8

· **Environmental precautions:**

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

Prevent seepage into sewage system, workpits and cellars.

Suppress gases/fumes/haze with water spray.

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

Ensure adequate ventilation.

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

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Dispose contaminated material as waste according to section 13.

**Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

**Precautions for safe handling****Advice on safe handling:**

Open and handle receptacle with care.

Use only in well ventilated areas.

Protect from heat.

Keep ignition sources away - Do not smoke.

Take precautionary measures against static discharge.

**Hygiene measures:**

Do not inhale gases / fumes / aerosols.

Take off immediately all contaminated clothing.

Wash hands before breaks and at the end of work.

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

**Conditions for safe storage, including any incompatibilities****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Do not use light alloy receptacles.

**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Protect from exposure to the light.

Protect from humidity and water.

**Recommended storage temperature:** 6°C - 10°C (42,8°F - 50°F)**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:****CAS: 78-92-2 butan-2-ol**

PEL (USA)	Long-term value: 450 mg/m <sup>3</sup> , 150 ppm
REL (USA)	Short-term value: 455 mg/m <sup>3</sup> , 150 ppm
	Long-term value: 305 mg/m <sup>3</sup> , 100 ppm
TLV (USA)	Long-term value: 100 ppm
EL (Canada)	Long-term value: 100 ppm
EV (Canada)	Short-term value: 150 ppm
	Long-term value: 100 ppm

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

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See item 7.

**Personal protective equipment:**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

**Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.**Recommended filter device for short term use:** Combination filter A-P1**Protection of hands:**

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

**Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

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- **Penetration time of glove material**

Value for the permeation: Level  $\leq$  1 (10 min)

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

- **Eye protection:**

Safety glasses

use against the effects of fumes / dust

Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment:**

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

## 9 Physical and chemical properties

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

- **Appearance:**

- **Form / Physical state:**

Solution

- **Color:**

Red

- **Odor:**

Like alcohol

- **Odor threshold:**

Not determined.

- **pH-value at 20°C (68°F):**

7.8

- **Melting point/freezing point:**

Not determined.

- **Initial boiling point and boiling range:**

Not determined.

- **Flash point:**

53°C (127.4°F) (DIN EN ISO 2719)

- **Flammability (solid, gas):**

Flammable liquid and vapor.

- **Auto igniting:**

Not determined.

- **Decomposition temperature:**

Not determined.

- **Auto-ignition temperature:**

Product is not self-igniting.

- **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Flammability or explosive limits:**

- **Lower:**

Not determined.

- **Upper:**

Not determined.

- **Oxidizing properties:**

none

- **Vapor Pressure:**

Not determined.

- **Density at 20°C (68°F):**

1.07 g/cm<sup>3</sup> (8.93 lbs/gal)

- **Relative density:**

Not determined.

- **Vapor density:**

Not determined.

- **Evaporation rate:**

Not determined.

- **Solubility(ies)**

- **Water:**

Fully miscible.

- **Partition coefficient (n-octanol/water):**

Not applicable (mixture).

- **Viscosity:**

- **Kinematic:**

Not determined.

- **Other information**

- **Solids content:**

&lt; 13 %

- **Solvent content:**

- **Organic solvents:**

&lt; 2.5 %

- **Water:**

&gt; 85 %

- **Information with regard to physical hazard classes**

- **Corrosive to metals**

Based on available data, the classification criteria are not met.

## 10 Stability and reactivity

- **Reactivity** Fumes can combine with air to form an explosive mixture.

- **Chemical stability** Stable at ambient temperature (room temperature).

- **Possibility of hazardous reactions**

Reacts with strong acids and oxidizing agents.

--&gt; exothermic reaction.

Reacts with earth alkaline metals.

- **Conditions to avoid** Heating.

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- **Incompatible materials:** aluminum
- **Hazardous decomposition products:** see section 5

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

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

CAS: 78-92-2 butan-2-ol		
Oral	LD50	6480 mg/kg (rat) (OECD 401) (Merck)
Dermal	LD50.	>2000 mg/kg (rat) (RTECS)
Inhalative	LC50/4h	48.5 mg/l (rat) (RTECS)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 78-92-2: chronic: dermatitis
- **Sensitization:** Based on available data, the classification criteria are not met.

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Information on components:**

OECD 414: Teratogenicity testing  
 OECD 473: Mutagenicity testing  
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

- **CAS: 78-92-2 butan-2-ol**

OECD 471 (negative)

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 78-92-2 butan-2-ol	
EC50	4227 mg/l/48h (Daphnia magna) (ECOTOX)
LC50	3670 mg/l/96h (fathead minnow) (ECOTOX)

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- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

**CAS: 78-92-2 butan-2-ol**log Pow 0.61 (.) (experimental)  
(Merck)

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

- **Other adverse effects** Avoid transfer into the environment.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

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



Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

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

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

### 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>	UN1120
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	Butanols solution BUTANOLS solution
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids 3
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids 3
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>	III
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Hazard identification number (Kemler code):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Stowage Category</b></li> </ul>	Warning: Flammable liquids 30 F-E,S-D A
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	Not applicable.

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· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

## 15 Regulatory information

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
· <b>Sara</b>		
· <b>Section 355 (Extremely hazardous substances):</b>		
None of the ingredients is listed.		
· <b>Section 313 (Specific toxic chemical listings):</b>		
CAS: 78-92-2	butan-2-ol	
· <b>TSCA (Toxic Substances Control Act):</b>		
All components have the value ACTIVE.		
· <b>Hazardous Air Pollutants</b>		
None of the ingredients is listed.		
· <b>Proposition 65</b>		
· <b>Chemicals known to cause cancer:</b>		
None of the ingredients is listed.		
· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients is listed.		
· <b>Chemicals known to cause reproductive toxicity for males:</b>		
None of the ingredients is listed.		
· <b>Chemicals known to cause developmental toxicity:</b>		
None of the ingredients is listed.		
· <b>New Jersey Right-to-Know List:</b>		
CAS: 78-92-2	butan-2-ol	
CAS: 1310-73-2	sodium hydroxide	
· <b>New Jersey Special Hazardous Substance List:</b>		
CAS: 78-92-2	butan-2-ol	F3
CAS: 1310-73-2	sodium hydroxide	CO, R1
· <b>Pennsylvania Right-to-Know List:</b>		
CAS: 78-92-2	butan-2-ol	
CAS: 1310-73-2	sodium hydroxide	
· <b>Pennsylvania Special Hazardous Substance List:</b>		
CAS: 78-92-2	butan-2-ol	E
CAS: 1310-73-2	sodium hydroxide	E
· <b>EPA (Environmental Protection Agency)</b>		
None of the ingredients is listed.		
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
None of the ingredients is listed.		
· <b>US-VOC content:</b> 12.1 g/l / 0.10 lb/gal		
· <b>Information about limitation of use:</b> Not required.		

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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.

· **Relevant phrases**

H226 Flammable liquid and vapor.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H336 May cause drowsiness or dizziness.

· **Version number / date of revision:** 31 / 02/01/2024

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development  
 STOT: specific target organ toxicity  
 SE: single exposure  
 RE: repeated exposure  
 EC50: half maximal effective concentration  
 IC50: half maximal inhibitory concentration  
 NOEL or NOEC: No Observed Effect Level or Concentration  
 c.c.: closed cup  
 ACGIH® - American Conference of Governmental Industrial Hygienists  
 •A1 - Confirmed human carcinogen  
 •A2 - Suspected human carcinogen  
 •A3 - Confirmed animal carcinogen with unknown relevance to humans  
 •A4 - Not classifiable as a human carcinogen  
 •A5 - Not suspected as a human carcinogen  
 IARC - International Agency for Research on Cancer  
 •Group 1 - Carcinogenic to humans  
 •Group 2A - Probably carcinogenic to humans  
 •Group 2B - Possibly carcinogenic to humans  
 •Group 3 - Not classifiable as to carcinogenicity to humans  
 •Group 4 - Probably not carcinogenic to humans  
 NTP - National Toxicology Program, U.S. Department of Health and Human Services  
 •Group K - Known to be Human Carcinogens  
 •Group R - Reasonably Anticipated to be Human Carcinogens  
 IMDG: International Maritime Code for Dangerous Goods  
 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)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 Flammable Liquids 3: Flammable liquids – Category 3  
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A  
 Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Data arise from safety data sheets, reference works and literature.  
 RTECS (Registry of Toxic Effects of Chemical Substances )  
 ECOTOX Database

· \* **Data compared to the previous version altered.**