

### Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 30 (replaces version 29)

Revision: 15.11.2023

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

· **1.1 Product identifier**

· **Product name: Phenol red Solution**

· **Catalog number:** 424450, 471040, 471041, 471046, 471040-N

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

· **Application of the substance / the preparation:** Reagent for water analysis

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

· **Supplier:**

Tintometer GmbH  
Schleefstraße 8-12  
44287 Dortmund  
Made in Germany  
www.lovibond.com

phone: +49 (0)231 94510-0  
e-mail: sales@lovibond.com

The Tintometer Limited  
Lovibond® House  
Sun Rise Way  
Amesbury  
Wiltshire SP4 7GR  
United Kingdom

phone : +44 1980 664800  
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com  
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670  
Languages: English

#### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS02

· **Signal word** Warning

· **Hazard statements**

H226 Flammable liquid and vapour.

· **Precautionary statements**

P233 Keep container tightly closed.

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**2.3 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.

**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

**Determination of endocrine-disrupting properties**

The product does not contain substances with endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**

**Description:** aqueous solution

**Dangerous components:**

CAS: 78-92-2	butan-2-ol	⚠ Flam. Liq. 3, H226; ⚠ Eye Irrit. 2, H319; STOT SE 3, H335-H336	≤2.5%
EINECS: 201-158-5			
Index No: 603-127-00-5			

**Additional information** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

**General information** Instantly remove any clothing soiled by the product.

**After inhalation** Supply fresh air; consult doctor in case of symptoms.

**After skin contact** Instantly wash with water and soap and rinse thoroughly.

**After eye contact**

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

**After swallowing**

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

Do not induce vomiting.

Seek medical treatment.

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

irritations

Drying-out effect resulting in rough and chapped skin.

absorption

after inhalation:

mucous membrane irritation

coughing

breathing difficulty

headache

drowsiness

after swallowing of large amounts:

cardiovascular disorders

**4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing agents** Use fire fighting measures that suit the environment.

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

combustible

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

Can be released in case of fire:

Dipotassium oxide

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

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

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**Additional information**

- Collect contaminated fire fighting water separately. It must not enter drains.
- Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
- Ambient fire may liberate hazardous vapours.

### SECTION 6: Accidental release measures

**6.1 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

**6.2 Environmental precautions:**

- Do not allow product to reach sewage system or water bodies.
- Prevent material from reaching sewage system, holes and cellars.
- Damp down gases/fumes/haze with water spray jet.

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

- Ensure adequate ventilation.
- Absorb with liquid-binding material (sand, diatomite, universal binders).
- Dispose of contaminated material as waste according to item 13.

**6.4 Reference to other sections**

- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

### SECTION 7: Handling and storage

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

- Use only in well ventilated areas.
- Protect from heat.
- Keep ignition sources away - Do not smoke.
- Take action to prevent static discharges.

**Hygiene measures:**

- Do not inhale gases / fumes / aerosols.
- Take off immediately all contaminated clothing.
- Wash hands during breaks and at the end of the work.
- Do not eat, drink or smoke when using this product.

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

- Store in cool location.
- Do not use light alloy containers.

**Information about storage in one common storage facility:** Store away from oxidising agents.

**Further information about storage conditions:**

- Store in cool, dry conditions in well sealed containers.
- Protect from heat and direct sunlight.
- Protect from the effects of light.
- Protect from humidity and keep away from water.

**Recommended storage temperature:** 6°C - 10°C

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

### SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**
**Components with limit values that require monitoring at the workplace:**
**CAS: 78-92-2 butan-2-ol**

WEL (Great Britain)	Short-term value: 462 mg/m <sup>3</sup> , 150 ppm Long-term value: 308 mg/m <sup>3</sup> , 100 ppm
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**Regulatory information** WEL (Great Britain): EH40/2020

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- **Recommended monitoring procedures:**  
Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.
  - **Additional information:** The lists that were valid during the compilation were used as basis.
  - **8.2 Exposure controls**
  - **Engineering measures:**  
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.
  - **Individual protection measures, such as personal protective equipment**  
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
  - **Eye/face protection**  
Safety glasses  
use against the effects of fumes / dust  
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
  - **Hand protection**  
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
  - **Penetration time of glove material**  
Value for the permeation: Level = 1 ( < 10 min )  
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Other skin protection (body protection):** Protective work clothing.
  - **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
  - **Recommended filter device for short term use:** Combination filter A-P1
  - **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.
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### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Fluid
- **Form:** Solution
- **Colour:** Red
- **Odour:** Like alcohol
- **Odour threshold:** Not determined.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** Not determined.
- **Flammability** Flammable liquid and vapour.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** 53°C (DIN EN ISO 2719)
- **Auto-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **pH at 20°C** 7.8
- **Kinematic viscosity** Not determined.
- **Solubility**
- **Water:** Fully miscible
- **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
- **Vapour pressure:** Not determined.
- **Density and/or relative density**
- **Density at 20°C:** 1.07 g/cm<sup>3</sup>
- **Relative density:** Not determined.
- **Relative gas density** Not determined.
- **Particle characteristics** Not applicable (liquid).

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**9.2 Other information**

<b>Information with regard to physical hazard classes</b>	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	< 13 %
· Solvent content:	
· Organic solvents:	< 2.5 %
· Water:	> 85 %

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** Fumes can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**  
Reacts with acids and oxidising agents.  
--> exothermic reaction  
Reacts with alkaline earth metals
- **10.4 Conditions to avoid** Heating.
- **10.5 Incompatible materials:** aluminium
- **10.6 Hazardous decomposition products:** see section 5

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **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)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 78-92-2: chronic: dermatitis
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.
- **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)

- **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.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

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**Other information**

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

### SECTION 12: Ecological information

**12.1 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)

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

**12.3 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)
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**12.4 Mobility in soil** No further relevant information available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

**12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

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

**Water hazard:**

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods****Recommendation**

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

Hand over to disposers of hazardous waste.

**European waste catalogue**

16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
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**Uncleaned packagings:**

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

**Recommended cleaning agent:** Water, if necessary with cleaning agent.

### SECTION 14: Transport information

**14.1 UN number or ID number****ADR, IMDG, IATA**

UN1120

**14.2 UN proper shipping name****ADR**

1120 BUTANOLS solution

**IMDG, IATA**

BUTANOLS solution

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· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR</b>	
	
· <b>Class</b>	3 (F1) Flammable liquids.
· <b>Label</b>	3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b>	
Not applicable.	
· <b>14.6 Special precautions for user</b>	
Warning: Flammable liquids.	
· <b>Kemler Number:</b>	30
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	A
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>ADR</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
· <b>Transport category</b>	3
· <b>Tunnel restriction code</b>	D/E
· <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

### \* SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

Products containing less than 1% of any of the reportable substances are in general of no concern.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

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· <b>Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 273/2004 on drug precursors</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:</b>
None of the ingredients is listed.
· <b>REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)</b>
None of the ingredients is listed.
· <b>LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)</b>
None of the ingredients is listed.

- **Substances of very high concern (SVHC) according to REACH, Article 57**  
This product does not contain any substances of very high concern above the legal concentration limit of  $\geq 0.1\%$  (w / w).
- **Substances of very high concern (SVHC) according to UK REACH**  
This product does not contain any substances of very high concern above the legal concentration limit of  $\geq 0.1\%$  (w / w).
- **Directive 2012/18/EU (SEVESO III):**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **Information about limitation of use:** Not required.
- **National regulations**
- **VOC-value EC:** 167.8 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.
- **Relevant phrases**  
H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.
- **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  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances

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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  
PBT: Persistent, Bioaccumulative and Toxic  
SVHC: Substances of Very High Concern  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 3: Flammable liquids – Category 3  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
STOT SE 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.**

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