

Creation Date 25-Aug-2011

Revision Date 10-Dec-2021

Revision Number 4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Lactophenol Aniline Blue
Cat No. : R40028

Unique Formula Identifier (UFI) G330-D0MK-X009-N5V3

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

| | | |
|---------|--|--|
| Company | Oxoid Ltd Wade Road Basingstoke, Hants, UK RG24 8PW Tel: +44 (0) 1256 841144 | Remel Santa Fe Trail Drive, KS 66215: 1-80-255-6730: 1-800-621-8251. |
|---------|--|--|

EU entity/business name

Oxoid Deutschland GmbH
Postfach 10 07 53
D-46483
Wesel
GERMANY
Tel: + 49 (0) 281 1520
Fax: 49 (0) 281 1521

E-mail address mbd-sds@thermofisher.com

1.4. Emergency telephone number

Chemtrec EU: 001-703-527-3887
Chemtrec US: (800) 424-9300

For customers in Switzerland:
Tox Info Suisse Emergency Number: **145 (24hr)**
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)
Chemtrec (24h) Toll-Free: 0800 564 402
Chemtrec Local: +41-43 508 20 11 (Zurich)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

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Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|--|---------------------|
| Acute oral toxicity | Category 4 (H302) |
| Acute dermal toxicity | Category 4 (H312) |
| Acute Inhalation Toxicity - Vapors | Category 3 (H331) |
| Skin Corrosion/Irritation | Category 1 B (H314) |
| Serious Eye Damage/Eye Irritation | Category 1 (H318) |
| Germ Cell Mutagenicity | Category 2 (H341) |
| Specific target organ toxicity - (repeated exposure) | Category 2 (H373) |

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H341 - Suspected of causing genetic defects
H373 - May cause damage to organs through prolonged or repeated exposure
H302 + H312 - Harmful if swallowed or in contact with skin
Combustible liquid

Precautionary Statements

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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3.2. Mixtures

| Component | CAS No | EC No | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|--------------------|----------|-------------------|----------|--|
| Phenol | 108-95-2 | EEC No. 203-632-7 | 20 | Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Muta. 2 (H341) STOT RE 2 (H373) |
| 1,2,3-Propanetriol | 56-81-5 | 200-289-5 | 40 | - |

| Component | Specific concentration limits (SCL's) | M-Factor | Component notes |
|-----------|---|----------|-----------------|
| Phenol | Eye Irrit. 2 (H319) :: 1%≤C<3% Skin Corr. 1B (H314) :: C≥3% Skin Irrit. 2 (H315) :: 1%≤C<3% | - | - |

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---|--|
| General Advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Inhalation | If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required. |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

4.2. Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

SECTION 5: FIREFIGHTING MEASURES

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5.1. Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Water.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

Hazardous Combustion Products

Carbon oxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep at temperatures between 2° and 8 °C. Corrosives area. Keep containers tightly closed in a dry,

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cool and well-ventilated place. Keep away from heat, sparks and flame.

Technical Rules for Hazardous Substances (TRGS) 510
Storage Class (LGK) (Germany)

Storage Class/LGK 6.1C

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

| Component | European Union | The United Kingdom | France | Belgium | Spain |
|--------------------|---|---|--|---|---|
| Phenol | TWA: 2 ppm (8h) TWA: 8 mg/m ³ (8h) STEL: 4 ppm (15min) STEL: 16 mg/m ³ (15min) Skin | STEL: 4 ppm 15 min STEL: 16 mg/m ³ 15 min TWA: 2 ppm 8 hr TWA: 7.8 mg/m ³ 8 hr Skin | TWA / VME: 2 ppm (8 heures). restrictive limit TWA / VME: 7.8 mg/m ³ (8 heures). restrictive limit STEL / VLCT: 4 ppm. restrictive limit STEL / VLCT: 15.6 mg/m ³ . restrictive limit Peau | TWA: 2 ppm 8 uren TWA: 8 mg/m ³ 8 uren STEL: 4 ppm 15 minuten STEL: 16 mg/m ³ 15 minuten Huid | STEL / VLA-EC: 4 ppm (15 minutos). STEL / VLA-EC: 16 mg/m ³ (15 minutos). TWA / VLA-ED: 2 ppm (8 horas) TWA / VLA-ED: 8 mg/m ³ (8 horas) Piel |
| 1,2,3-Propanetriol | | TWA: 10 mg/m ³ 8 hr (mist only) | TWA / VME: 10 mg/m ³ (8 heures). | TWA: 10 mg/m ³ 8 uren | TWA / VLA-ED: 10 mg/m ³ (8 horas) |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|--------------------|--|--|---|---|--|
| Phenol | TWA: 2 ppm 8 ore. Media Ponderata nel Tempo TWA: 8.0 mg/m ³ 8 ore. Media Ponderata nel Tempo STEL: 4 ppm 15 minuti. Breve termine STEL: 16 mg/m ³ 15 minuti. Breve termine Pelle | TWA: 2 ppm (8 Stunden). AGW - exposure factor 2 TWA: 8 mg/m ³ (8 Stunden). AGW - exposure factor 2 Haut | STEL: 4 ppm 15 minutos STEL: 16 mg/m ³ 15 minutos TWA: 2 ppm 8 horas TWA: 8 mg/m ³ 8 horas Pele | huid TWA: 8 mg/m ³ 8 uren | TWA: 2 ppm 8 tunteina TWA: 8 mg/m ³ 8 tunteina STEL: 4 ppm 15 minuutteina STEL: 16 mg/m ³ 15 minuutteina Iho |
| 1,2,3-Propanetriol | | TWA: 200 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 200 mg/m ³ (8 Stunden). MAK Höhepunkt: 400 mg/m ³ | TWA: 10 mg/m ³ 8 horas | | TWA: 20 mg/m ³ 8 tunteina |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|-----------|---|---|---|--|--|
| Phenol | Haut MAK-KZGW: 4 ppm 15 Minuten MAK-KZGW: 16 mg/m ³ 15 Minuten MAK-TMW: 2 ppm 8 Stunden MAK-TMW: 8 mg/m ³ 8 Stunden | TWA: 1 ppm 8 timer TWA: 4 mg/m ³ 8 timer Hud | Haut/Peau STEL: 5 ppm 15 Minuten STEL: 19 mg/m ³ 15 Minuten TWA: 5 ppm 8 Stunden TWA: 19 mg/m ³ 8 Stunden | STEL: 16 mg/m ³ 15 minutach TWA: 7.8 mg/m ³ 8 godzinach | TWA: 1 ppm 8 timer TWA: 4 mg/m ³ 8 timer STEL: 3 ppm 15 minutter. value from the regulation STEL: 12 mg/m ³ 15 minutter. value from the regulation Hud |

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| | | | | | |
|--------------------|--|--|---|--|--|
| 1,2,3-Propanetriol | | | STEL: 100 mg/m ³ 15 Minuten TWA: 50 mg/m ³ 8 Stunden | TWA: 10 mg/m ³ 8 godzinach | |
|--------------------|--|--|---|--|--|

| Component | Bulgaria | Croatia | Ireland | Cyprus | Czech Republic |
|--------------------|--|---|---|---|---|
| Phenol | TWA: 2 ppm TWA: 8 mg/m ³ STEL : 4 ppm STEL : 16 mg/m ³ 8 Skin notation | kože TWA-GVI: 2 ppm 8 satima. TWA-GVI: 8 mg/m ³ 8 satima. STEL-KGVI: 4 ppm 15 minutama. STEL-KGVI: 16 mg/m ³ 15 minutama. | TWA: 2 ppm 8 hr. TWA: 8 mg/m ³ 8 hr. STEL: 4 ppm 15 min STEL: 16 mg/m ³ 15 min Skin | Skin-potential for cutaneous absorption STEL: 16 mg/m ³ STEL: 4 ppm TWA: 8 mg/m ³ TWA: 2 ppm | TWA: 7.5 mg/m ³ 8 hodinách. Potential for cutaneous absorption Ceiling: 15 mg/m ³ |
| 1,2,3-Propanetriol | | TWA-GVI: 10 mg/m ³ 8 satima. | TWA: 10 mg/m ³ 8 hr. (mist) | | TWA: 10 mg/m ³ 8 hodinách. Ceiling: 15 mg/m ³ |

| Component | Estonia | Gibraltar | Greece | Hungary | Iceland |
|--------------------|--|--|---|--|---|
| Phenol | Nahk TWA: 2 ppm 8 tundides. TWA: 8 mg/m ³ 8 tundides. STEL: 16 mg/m ³ 15 minutites. STEL: 4 ppm 15 minutites. | Skin notation TWA: 2 ppm 8 hr TWA: 8 mg/m ³ 8 hr STEL: 16 mg/m ³ 15 min STEL: 4 ppm 15 min | skin - potential for cutaneous absorption STEL: 4 ppm STEL: 16 mg/m ³ TWA: 2 ppm TWA: 8 mg/m ³ | STEL: 16 mg/m ³ 15 percekben. CK TWA: 8 mg/m ³ 8 óraban. AK lehetséges borön keresztüli felszívódás | TWA: 1 ppm 8 klukkustundum. TWA: 4 mg/m ³ 8 klukkustundum. Skin notation Ceiling: 2 ppm Ceiling: 8 mg/m ³ |
| 1,2,3-Propanetriol | TWA: 10 mg/m ³ 8 tundides. | | TWA: 10 mg/m ³ | | |

| Component | Latvia | Lithuania | Luxembourg | Malta | Romania |
|-----------|---|--|---|---|---|
| Phenol | skin - potential for cutaneous exposure STEL: 4 ppm STEL: 16 mg/m ³ TWA: 2 ppm TWA: 8 mg/m ³ | TWA: 2 ppm IPRD TWA: 8 mg/m ³ IPRD Oda STEL: 4 ppm STEL: 16 mg/m ³ | Possibility of significant uptake through the skin TWA: 2 ppm 8 Stunden TWA: 8 mg/m ³ 8 Stunden STEL: 16 mg/m ³ 15 Minuten STEL: 4 ppm 15 Minuten | possibility of significant uptake through the skin TWA: 2 ppm TWA: 8 mg/m ³ STEL: 16 mg/m ³ 15 minuti STEL: 4 ppm 15 minuti | Skin notation TWA: 2 ppm 8 ore TWA: 8 mg/m ³ 8 ore STEL: 4 ppm 15 minute STEL: 16 mg/m ³ 15 minute |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|--------------------|--|--|---|--|--|
| Phenol | TWA: 0.3 mg/m ³ 0539 Skin notation MAC: 1 mg/m ³ | Ceiling: 16 mg/m ³ Potential for cutaneous absorption TWA: 2 ppm TWA: 8 mg/m ³ | TWA: 2 ppm 8 urah TWA: 8 mg/m ³ 8 urah Koža STEL: 4 ppm 15 minutah STEL: 16 mg/m ³ 15 minutah | Binding STEL: 4 ppm 15 minuter Binding STEL: 16 mg/m ³ 15 minuter TLV: 1 ppm 8 timmar. NGV TLV: 4 mg/m ³ 8 timmar. NGV Hud | Deri TWA: 2 ppm 8 saat TWA: 8 mg/m ³ 8 saat STEL: 4 ppm 15 dakika STEL: 16 mg/m ³ 15 dakika |
| 1,2,3-Propanetriol | | TWA: 11 mg/m ³ | TWA: 200 mg/m ³ 8 urah inhalable fraction STEL: 400 mg/m ³ 15 minutah inhalable fraction | | |

Biological limit values

List source(s):

| Component | European Union | United Kingdom | France | Spain | Germany |
|-----------|----------------|----------------|--|---|---|
| Phenol | | | Total Phenol: 250 mg/g creatinine urine end of shift | : 120 mg/g Creatinine urine end of shift | Phenol (after hydrolysis): 120 mg/g Creatinine urine (end of shift) |

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| Component | Italy | Finland | Denmark | Bulgaria | Romania |
|-----------|-------|---|---------|--|--|
| Phenol | | Total phenol: 1.3 mmol/L urine after the shift. | | Phenol: 200 µg/L urine at the end of exposure or end of work shift | total Phenol: 120 mg/g Creatinine urine end of shift |

| Component | Gibraltar | Latvia | Slovak Republic | Luxembourg | Turkey |
|-----------|-----------|--------|--|------------|--------|
| Phenol | | | Phenol: 200 mg/L urine end of exposure or work shift | | |

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

| Component | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|---------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| Phenol 108-95-2 (20) | | | | DNEL = 1.23mg/kg bw/day |

| Component | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--------------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Phenol 108-95-2 (20) | DNEL = 16mg/m ³ | | | DNEL = 8mg/m ³ |
| 1,2,3-Propanetriol 56-81-5 (40) | | | DNEL = 56mg/m ³ | |

Predicted No Effect Concentration (PNEC)

See values below.

| Component | Fresh water | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|--------------------------------------|-------------------|--------------------------------|--------------------|------------------------------------|---------------------------|
| Phenol 108-95-2 (20) | PNEC = 0.0077mg/L | PNEC = 0.0915mg/kg sediment dw | PNEC = 0.031mg/L | PNEC = 2.1mg/L | PNEC = 0.136mg/kg soil dw |
| 1,2,3-Propanetriol 56-81-5 (40) | PNEC = 0.885mg/L | PNEC = 3.3mg/kg sediment dw | PNEC = 8.85mg/L | PNEC = 1000mg/L | PNEC = 0.141mg/kg soil dw |

| Component | Marine water | Marine water sediment | Marine water Intermittent | Food chain | Air |
|--------------------------------------|--------------------|---------------------------------|---------------------------|------------|-----|
| Phenol 108-95-2 (20) | PNEC = 0.00077mg/L | PNEC = 0.00915mg/kg sediment dw | | | |
| 1,2,3-Propanetriol 56-81-5 (40) | PNEC = 0.0885mg/L | PNEC = 0.33mg/kg sediment dw | | | |

8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to

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control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles (European standard - EN 166)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|-------------------|-----------------------------------|-----------------|-------------|-----------------------|
| Disposable gloves | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Skin and body protection

Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

In case of insufficient ventilation, wear suitable respiratory equipment

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State

Liquid

Appearance

Odor

No information available

Odor Threshold

No data available

Melting Point/Range

No data available

Softening Point

No data available

Boiling Point/Range

Not applicable

Flammability (liquid)

No data available

On basis of test data

Flammability (solid,gas)

Not applicable

Liquid

Explosion Limits

No data available

Flash Point

> 78 °C >

Method - No information available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

pH

No data available 444444

Viscosity

No data available

Water Solubility

No information available

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

Component

log Pow

Phenol

1.5

1,2,3-Propanetriol

-1.76

Vapor Pressure

No data available

Density / Specific Gravity

No data available

Bulk Density

Not applicable

Liquid

OXDR40028

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Vapor Density No data available (Air = 1.0)
Particle characteristics Not applicable (liquid)

9.2. Other information

explosive air/vapour mixtures possible

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks. Exposure to moisture. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Isocyanates.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

Oral Category 4
Dermal Category 4
Inhalation Category 3

Toxicology data for the components

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--------------------|--------------------------|-----------------------------|------------------------------|
| Phenol | LD50 = 340 mg/kg (Rat) | LD50 = 630 mg/kg (Rabbit) | - |
| 1,2,3-Propanetriol | 12600 mg/kg (Rat) | > 10 g/kg (Rabbit) | > 2.75 mg/L/4h (Rat)(mist) |

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

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| | |
|---|--|
| Respiratory | No data available |
| Skin | No data available |
| | No information available |
| (e) germ cell mutagenicity; | Category 2 |
| | Phenol; is classified by the European Union as a mutagen of category 3: Possible risk of irreversible effects |
| (f) carcinogenicity; | No data available |
| | The table below indicates whether each agency has listed any ingredient as a carcinogen |
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | No data available |
| (i) STOT-repeated exposure; | Category 2 |
| Target Organs | No information available. |
| (j) aspiration hazard; | No data available |
| Symptoms / effects, both acute and delayed | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. |

11.2. Information on other hazards

| | |
|--|---|
| Endocrine Disrupting Properties | Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. |
|--|---|

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Contains a substance which is: The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

| Component | Freshwater Fish | Water Flea | Freshwater Algae |
|--------------------|---|---|--|
| Phenol | 4-7 mg/L LC50 96 h 32 mg/L LC50 96 h | EC50: 10.2 - 15.5 mg/L, 48h (Daphnia magna) EC50: 4.24 - 10.7 mg/L, 48h Static (Daphnia magna) | EC50: 0.0188 - 0.1044 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 187 - 279 mg/L, 72h static (Desmodesmus subspicatus) EC50: = 46.42 mg/L, 96h (Pseudokirchneriella subcapitata) |
| 1,2,3-Propanetriol | LC50: 51 - 57 mL/L, 96h static (Oncorhynchus mykiss) | | |

| Component | Microtox | M-Factor |
|-----------|--------------------------|----------|
| Phenol | EC50 21 - 36 mg/L 30 min | |

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| | | |
|--|--|--|
| | EC50 = 23.28 mg/L 5 min EC50 = 25.61 mg/L 15 min EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min | |
|--|--|--|

12.2. Persistence and degradability No information available
Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential No information available

| Component | log Pow | Bioconcentration factor (BCF) |
|--------------------|---------|-------------------------------|
| Phenol | 1.5 | No data available |
| 1,2,3-Propanetriol | -1.76 | No data available |

12.4. Mobility in soil No information available .

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting properties
Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with federal, state and local regulations. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

Switzerland - Waste Ordinance Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600
<https://www.fedlex.admin.ch/eli/cc/2015/891/en>

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN2821

OXDR40028

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14.2. UN proper shipping name PHENOL SOLUTION
14.3. Transport hazard class(es) 6.1
14.4. Packing group II

ADR

14.1. UN number UN2821
14.2. UN proper shipping name PHENOL SOLUTION
14.3. Transport hazard class(es) 6.1
14.4. Packing group II

IATA

14.1. UN number UN2821
14.2. UN proper shipping name PHENOL SOLUTION
14.3. Transport hazard class(es) 6.1
14.4. Packing group II

14.5. Environmental hazards No hazards identified
14.6. Special precautions for user No special precautions required
14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | EINECS | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|--------------------|----------|-----------|--------|-----|-------|------|----------|------|------|
| Phenol | 108-95-2 | 203-632-7 | - | - | X | X | KE-28209 | X | X |
| 1,2,3-Propanetriol | 56-81-5 | 200-289-5 | - | - | X | X | KE-29297 | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|--------------------|----------|------|---|-----|------|------|-------|-------|
| Phenol | 108-95-2 | X | ACTIVE | X | - | X | X | X |
| 1,2,3-Propanetriol | 56-81-5 | X | ACTIVE | X | - | X | X | X |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-----------|---|---|---|
| Phenol | - | Use restricted. See item 75. (see link for restriction details) | - |

<https://echa.europa.eu/substances-restricted-under-reach>

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-----------|--------|---|--|
| | | | |

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| | | | |
|--------------------|----------|----------------|----------------|
| Phenol | 108-95-2 | Not applicable | Not applicable |
| 1,2,3-Propanetriol | 56-81-5 | Not applicable | Not applicable |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification Water endangering class = 2 (self classification)

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|--------------------|--|--|
| Phenol | WGK2 | Class I : 20 mg/m ³ (Massenkonzentration) |
| 1,2,3-Propanetriol | WGK1 | |

| Component | France - INRS (Tables of occupational diseases) |
|-----------|--|
| Phenol | Tableaux des maladies professionnelles (TMP) - RG 14 |

Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

| Component | Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81) | Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC) | Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure |
|---------------------------|--|---|---|
| Phenol 108-95-2 (20) | Prohibited and Restricted Substances | | |

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H341 - Suspected of causing genetic defects

H373 - May cause damage to organs through prolonged or repeated exposure

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

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Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadviser - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (volatile organic compound)

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data

Health Hazards Calculation method

Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date 25-Aug-2011
Revision Date 10-Dec-2021
Revision Summary Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 .

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet