1 Identification

Trade name: PS-20 / PS-22 Indicator Solution
Relevant identified uses of the substance or mixture and uses advised against Professional use

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Kester LLC
800 West Thorndale Avenue
Itasca, IL 60143 USA
Tel (630) 616-4000
Tel International 00 1 630 616-4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

Kester GmbH
Ganghofer Strasse 45
D-82216 Gernlinden Germany
Tel +49 (0) 8142 4785 0

Information department: EHS_Kester@kester.com
Emergency telephone number:
CHEMTREC 24-Hour Emergency Response Telephone Number: International +1 703 741-5970

2 Hazard(s) identification

Classification of the substance or mixture

GHS02 Flame
Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS06 Skull and crossbones
Acute Tox. 3 H331 Toxic if inhaled.

GHS08 Health hazard
Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT SE 1 H370 Causes damage to organs.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
**Trade name:** PS-20 / PS-22 Indicator Solution

**Hazard pictograms**

- GHS02
- GHS06
- GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**
- methanol
- phenolphthalein

**Hazard statements**
- H225 Highly flammable liquid and vapor.
- H331 Toxic if inhaled.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H370 Causes damage to organs.

**Precautionary statements**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P321 Specific treatment (see on this label).
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards**

**Results of PBT and vPvB assessment**
- PBT: Not applicable.
- vPvB: Not applicable.
3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical characterization: Substances</th>
<th>CAS No. Description</th>
<th>Identification number(s)</th>
<th>EC number: 200-659-6</th>
<th>Index number: 603-001-00-X</th>
<th>Chemical characterization: Mixtures</th>
<th>Description: Mixture</th>
</tr>
</thead>
</table>

**Dangerous components:**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>methanol</td>
<td>&gt;50–≤100%</td>
</tr>
<tr>
<td>77-09-8</td>
<td>phenolphthalein</td>
<td>1–≤2.5%</td>
</tr>
</tbody>
</table>

**SVHC**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-09-8</td>
<td>phenolphthalein</td>
</tr>
</tbody>
</table>

**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.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

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

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:** If symptoms persist consult 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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** Water with full jet

**Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.

**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).
Dispose contaminated material as waste according to item 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.

## 7 Handling and storage

**Handling:**

**Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

**Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

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

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see item 7.
Safety Data Sheet  
acc. to OSHA HCS  

Printing date 05/03/2019  
Version number 20  
Reviewed on 05/03/2019  

Trade name: PS-20 / PS-22 Indicator Solution  

(Contd. of page 4)

Control parameters

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>67-56-1 methanol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL (USA)</strong></td>
</tr>
<tr>
<td><strong>REL (USA)</strong></td>
</tr>
<tr>
<td><strong>TLV (USA)</strong></td>
</tr>
<tr>
<td><strong>Skin</strong></td>
</tr>
<tr>
<td><strong>Skin; BEI</strong></td>
</tr>
</tbody>
</table>

Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>67-56-1 methanol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEI (USA)</strong></td>
</tr>
<tr>
<td><strong>Medium:</strong> urine</td>
</tr>
<tr>
<td><strong>Time:</strong> end of shift</td>
</tr>
<tr>
<td><strong>Parameter:</strong> Methanol (background, nonspecific)</td>
</tr>
</tbody>
</table>

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.

**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.
Not necessary if room is well-ventilated.

**Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

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

(Contd. on page 6)
9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
<td></td>
</tr>
<tr>
<td>Appearance:</td>
<td></td>
</tr>
<tr>
<td>Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor:</td>
<td>Alcohol-like</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>-98 °C (-144.4 °F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>64.7 °C (148.5 °F)</td>
</tr>
<tr>
<td>Flash point:</td>
<td>12 °C (53.6 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>455 °C (851 °F)</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion:</td>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>5.5 Vol %</td>
</tr>
<tr>
<td>Upper:</td>
<td>44 Vol %</td>
</tr>
<tr>
<td>Vapor pressure at 20 °C (68 °F):</td>
<td>128 hPa (96 mm Hg)</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>0.79112 g/cm³ (6.6019 lbs/gal)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity: Dynamic:</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>
Trade name: PS-20 / PS-22 Indicator Solution

Kinematic: Not determined.

Solvent content:
- Organic solvents: 98.9 %
- VOC content: 98.88 %
  782.3 g/l / 6.53 lb/gal

Solids content: 1.1 %

Other information: 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.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative LC50/4 h 3.03 mg/l

67-56-1 methanol

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>DD50 (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5,628 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>15,800 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50/4 h 3 mg/l (ATE)</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:

- on the skin: No irritant effect.
- on the eye: No 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

Carcinogenic categories

IARC (International Agency for Research on Cancer)

77-09-8 phenolphthalein
Safety Data Sheet
acc. to OSHA HCS

Trade name: PS-20 / PS-22 Indicator Solution

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-09-8 phenolphthalein</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

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 2 (Self-assessment): hazardous for water
- Do not allow product to reach ground water, water course or sewage system.
- Danger to drinking water if even small quantities leak into the ground.

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

**Other adverse effects** No further relevant information available.

13 Disposal considerations

**Waste treatment methods**

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

**Uncleaned packagings**:

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

14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
</tr>
<tr>
<td>ADR</td>
</tr>
<tr>
<td>IMDG, IATA</td>
</tr>
</tbody>
</table>
### Transport hazard class(es)

**DOT**
- **Class**: 3
- **Label**: Flammable liquids
- **Label**: 3, 6.1

**ADR**
- **Class**: 3
- **Label**: (FT1) Flammable liquids
- **Label**: 3+6.1

**IMDG**
- **Class**: 3
- **Label**: Flammable liquids
- **Label**: 3/6.1

**IATA**
- **Class**: 3
- **Label**: Flammable liquids
- **Label**: 3 (6.1)

**Packing group**
- **DOT, IMDG, IATA**: II

**Environmental hazards:**
- Not applicable.

**Special precautions for user**
- **EMS Number**: F-E-S-D
- **Stowage Category**: B
- **Stowage Code**: SW2 Clear of living quarters.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
- Not applicable.
Transport/Additional information:

DOT
Quantity limitations
On passenger aircraft/rail: 1 L
On cargo aircraft only: 60 L

ADR
Excepted quantities (EQ)
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

IMDG
Limited quantities (LQ)
1L
 Excepted quantities (EQ)
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":
UN 1230 METHANOL SOLUTION, 3 (6.1), II

15 Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):
All ingredients are listed.

TSCA (Toxic Substances Control Act): (Substances not listed)
All ingredients are listed.

Hazardous Air Pollutants
67-56-1 methanol

Proposition 65

Chemicals known to cause cancer:
77-09-8 phenolphthalein

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:
67-56-1 methanol
Carcinogenic categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

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

Hazard pictograms

![Hazard pictograms](image)

GHS02  GHS06  GHS08

Signal word Danger

Hazard-determining components of labeling:
- methanol
- phenolphthalein

Hazard statements
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- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P321 Specific treatment (see on this label).
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2019  Version number 20  Reviewed on 05/03/2019

Trade name: PS-20 / PS-22 Indicator Solution

(Contd. of page 11)

P405  Store locked up.
P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Information about limitation of use:
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

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.

Contact: EHS_Kester@Kester.com

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)
VOC: Volatile Organic Compounds (USA, EU)
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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Repr. 2: Reproductive toxicity – Category 2
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

* Data compared to the previous version altered.