2. HAZARDS IDENTIFICATION

Germ cell mutagenicity: Category 2
Carcinogenicity: Category 2
Reproductive toxicity: Category 2

Label elements
Warning

Hazard statements
Suspected of causing genetic defects
Suspected of causing cancer
Suspected of damaging fertility or the unborn child

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein, powder</td>
<td>77-09-8</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention if irritation occurs.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Product code: P1075
Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. May cause eye/skin irritation. Suspected of causing genetic defects. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

---

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide

Specific hazards: May be combustible at high temperatures. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

---

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment: Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

---

Product code: P1075  Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:
Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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</thead>
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<tr>
<td>Phenolphthalein, powder - 77-09-8</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>

Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
</tr>
</thead>
<tbody>
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Australia and Mexico

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<th>Components</th>
<th>Australia</th>
<th>Mexico</th>
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<tbody>
<tr>
<td>Phenolphthalein, powder 77-09-8</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures to reduce exposure:
Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles. Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.
Respiratory protection: Effective dust mask. Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Odor:</th>
<th>Taste</th>
<th>Molecular/Formula weight:</th>
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</thead>
<tbody>
<tr>
<td>Odorless.</td>
<td>No information available</td>
<td>318.33</td>
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</table>

<table>
<thead>
<tr>
<th>Formula:</th>
<th>Flash point (°C):</th>
<th>Flashpoint (°C/°F):</th>
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</thead>
<tbody>
<tr>
<td>C20H14O4</td>
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<td>No information available.</td>
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<table>
<thead>
<tr>
<th>Flash Point Tested according to:</th>
<th>Lower Explosion Limit (%):</th>
<th>Upper Explosion Limit (%):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td>No information available</td>
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</table>

<table>
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<tr>
<th>Autoignition Temperature (°C/°F):</th>
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<th>Bulk density:</th>
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<td>No information available</td>
<td>No information available</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling point/range(°C/°F):</th>
<th>Decomposition temperature(°C/°F):</th>
<th>Density (g/cm3):</th>
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<table>
<thead>
<tr>
<th>Specific gravity:</th>
<th>Vapor pressure @ 20°C (kPa):</th>
<th>VOC content (g/L):</th>
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<table>
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<tr>
<th>Evaporation rate:</th>
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<tbody>
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<td>No information available</td>
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<table>
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<tr>
<th>Odor threshold (ppm):</th>
<th>Partition coefficient (n-octanol/water):</th>
<th>Miscibility:</th>
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<td>2.4</td>
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<tr>
<th>Miscibility:</th>
<th>Solubility:</th>
<th>Molecular weight:</th>
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<tbody>
<tr>
<td>No information available</td>
<td>Slightly soluble in water</td>
<td>318.33</td>
</tr>
<tr>
<td></td>
<td>Solubility in Water: 4000 mg/L @20°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easily soluble in acetone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very soluble in Ethanol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soluble in diethyl ether</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soluble in Chloroform</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soluble in Toluene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insoluble in Benzene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insoluble in Petroleum ether</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slightly soluble in Carbon Disulfide</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
Reactive with oxidizing agents

Chemical stability
Stability: Stable under recommended storage conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Product code: P1075  Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
Incompatible Materials: Strong oxidizing agents.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Toxicity

Component Information

Phenolphthalein, powder - 77-09-8  
LD50/oral/rat = No information available  
LD50/oral/mouse = No information available  
LD50/dermal/rat = No information available  
LD50/dermal/rabbit = No information available  
LC50/inhalation/rat = No information available  
LC50/inhalation/mouse = No information available  
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =  
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =  
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit  
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat  
VALUE-Dermal = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

Symptoms

Product code: P1075  
Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Inhalation May cause irritation of respiratory tract.

Ingestion May cause gastrointestinal tract irritation (gastritis) with nausea, vomiting, diarrhea. Phenolphthalein acts as a laxative. It may also affect the liver (liver failure).

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may cause chronic diarrhea, irritation of the pancreas, and also affect the liver (liver failure), blood (changes in red blood cell count, anemia), metabolism (weight loss, depletion of electrolytes), and kidneys. Prolonged or repeated ingestion may also cause allergic reactions involving swelling of the eyelids and skin rashes.

Sensitization: No information available

Mutagenic Effects: Mutagenic effects on mammalian germ cells
Cytogenic Analysis: Hamster ovary (RTECS)
Cytogenic Analysis: Human embryo (RTECS)
Micronucleus Test: Hamster ovary (RTECS)

Carcinogenic effects: Possibly carcinogenic to humans.

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH - Carcinogens</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein, powder</td>
<td>Not listed</td>
<td>Group 2B - Monograph 76 [2000]</td>
<td>Reasonably Anticipated To Be A Human Carcinogen</td>
<td>Present</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans

Reproductive toxicity Suspected of damaging fertility or the unborn child

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Product code: P1075  
Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein, powder</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: None
ERG No: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: Not Regulated

Product code: P1075
Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
14. TRANSPORT INFORMATION

Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
MFAG: No information available
Maximum Quantity: No information available

RID
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein, powder</td>
<td>Present</td>
<td>Present KE-03234</td>
<td>Present</td>
<td>Present (9)-1152</td>
<td>Present</td>
<td>Present</td>
<td>Present 201-004-7</td>
</tr>
</tbody>
</table>

U.S. Regulations

Phenolphthalein, powder

New Jersey RTK Hazardous Substance List: SN 4110
New Jersey (EHS) List: SN 4110 500lbTPQ


Chemicals Known to the State of California to Cause Cancer:
WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)
Components  | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity
--- | --- | --- | --- | ---
Phenolphthalein, powder | carcinogen | Not Listed | Not Listed | Not Listed

CERCLA/SARA

| Components | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
--- | --- | --- | --- | --- | ---
Phenolphthalein, powder | None | None | None | None | 0.1 % de minimis concentration |

U.S. TSCA

| Components | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
--- | --- | ---
Phenolphthalein, powder | Not Applicable | Not Applicable |

Canada

WHMIS hazard class:
Non-controlled

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

| Components | Canada (DSL) | Canada (NDSL) |
--- | --- | ---
Phenolphthalein, powder | Present | Not Listed |

| Components | CEPA Schedule I - Toxic Substances | CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting |
--- | --- | ---
Phenolphthalein, powder | Not listed | Not listed |

EU Classification

R-phrase(s)
R45 - May cause cancer.
R62 - Possible risk of impaired fertility.
R68 - Possible risk of irreversible effects.

S-phrase(s)
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S53 - Avoid exposure - obtain special instructions before use.

| Components | Classification | Concentration Limits: | Safety Phrases |
--- | --- | --- | ---
Phenolphthalein, powder | Carc.Cat.2; R45 Repr.Cat.3; R62 Muta.Cat.3; R68 | 1%<=C: Carc.Cat.2; R:45 | S53 S45 |

Product code: P1075  Product name: PHENOLPHTHALEIN, POWDER, REAGENT, ACS
The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
T - Toxic
Xn - Harmful.

16. OTHER INFORMATION

Preparation Date: 02/13/2015
Revision Date: 02/13/2015
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet