

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : PhenoCure LP
Product code : 20-6100-080, 20-6100-400, 20-6100-500

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Polymer preparations and compounds
Restrictions on use : None known

1.3. Supplier

Buehler
41 Waukegan Rd
Lake Bluff, IL 60044
T 1-847-295-6500
custserv@buehler.com

1.4. Emergency telephone number

Emergency number : Global Access Code: 334545; Americas" +1 760 476 3962; Middle East/Africa: +1 760 476 3959;
Asia Pacific +1 760 476 3960; Europe +1 760 476 3961

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1 H317 May cause an allergic skin reaction
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
Precautionary statements (GHS US) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS US classification |
|--|--------------------|--------|--|
| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane | CAS-No.: 100-97-0 | 5 – 10 | Flam. Sol. 2, H228 Skin Sens. 1, H317 |

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Call a poison center/doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|-------------------------------------|--|
| Symptoms/effects | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/effects after skin contact | : May cause an allergic skin reaction. |

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|----------------------------------|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. |
| Unsuitable extinguishing media | : Not determined. |

5.2. Specific hazards arising from the chemical

| | |
|--|--------------------------------|
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |
|--|--------------------------------|

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Fight fire with normal precautions from a reasonable distance. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not handle until all safety precautions have been read and understood.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| | |
|--|---|
| PhenoCure LP | |
| No additional information available | |
| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane (100-97-0) | |
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH OEL TWA | 1 mg/m ³ (inhalable fraction and vapor) |
| ACGIH chemical category | Not Classifiable as a Human Carcinogen, dermal sensitizer |

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Limestone (1317-65-3)

USA - OSHA - Occupational Exposure Limits

| | |
|--------------------|--|
| OSHA PEL (TWA) [1] | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
|--------------------|--|

8.2. Appropriate engineering controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure good ventilation of the work station. |
| Environmental exposure controls | : Avoid release to the environment. |

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Solid |
| Appearance | : Powder. |
| Color | : Various colours |
| Odor | : Characteristic |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : Not applicable |
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability | : Non flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20°C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : Not applicable |

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| | |
|----------------------|---------------------|
| Viscosity, dynamic | : No data available |
| Explosion limits | : Not applicable |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-----------------------------|-------------------|
| Acute toxicity (oral) | : Not classified. |
| Acute toxicity (dermal) | : Not classified. |
| Acute toxicity (inhalation) | : Not classified. |

| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane (100-97-0) | |
|--|---------------|
| LD50 oral rat | > 20000 mg/kg |
| LD50 dermal rat | > 2000 mg/kg |

| | |
|-----------------------------------|---|
| Skin corrosion/irritation | : Not classified. |
| Serious eye damage/irritation | : Not classified. |
| Respiratory or skin sensitization | : not sensitizing according to OECD test 406 (Based on available data, the classification criteria are not met) |
| Germ cell mutagenicity | : Not classified. |
| Carcinogenicity | : Not classified. |
| Reproductive toxicity | : Not classified. |
| STOT-single exposure | : Not classified. |
| STOT-repeated exposure | : Not classified. |
| Aspiration hazard | : Not classified. |
| Viscosity, kinematic | : Not applicable |
| Symptoms/effects | : Not expected to present a significant hazard under anticipated conditions of normal use. |

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Symptoms/effects after skin contact : May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane (100-97-0) | |
|--|--|
| LC50 - Fish [1] | 44600 – 55600 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 - Crustacea [1] | 29868 – 43390 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane (100-97-0) | |
|--|----------------------------------|
| Partition coefficient n-octanol/water (Log Pow) | -2.18 (at 20 °C (at pH >=7-<=9)) |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

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IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

PhenoCure LP

| | |
|-------------------------------------|---|
| SARA Section 311/312 Hazard Classes | Health hazard - Respiratory or skin sensitization |
|-------------------------------------|---|

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

No additional information available

15.3. US State regulations



WARNING:

This product can expose you to Aniline, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

| Component | State or local regulations |
|--|--|
| 1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)]decane(100-97-0) | U.S. - New Jersey - Right to Know Hazardous Substance List |

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SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Full text of H-phrases | |
|------------------------|-------------------------------------|
| H228 | Flammable solid |
| H317 | May cause an allergic skin reaction |

Safety Data Sheet (SDS), USA - HSI

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