

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : 8141 OP Solution B  
 Product code : AL0-130686

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269

#### 1.4. Emergency telephone number

No additional information available

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

|   |      |   |
|---|------|---|
| Flammable liquids<br>Category 2                                     | H225 | Highly flammable liquid and vapour                                |
| Skin corrosion/irritation<br>Category 2                             | H315 | Causes skin irritation  |
| Serious eye damage/eye<br>irritation Category 2                     | H319 | Causes serious eye irritation                                     |
| Specific target organ<br>toxicity (single exposure)<br>Category 3   | H336 | May cause drowsiness or dizziness                                 |
| Specific target organ<br>toxicity (repeated exposure)<br>Category 2 | H373 | May cause damage to organs through prolonged or repeated exposure |

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) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H336 - May cause drowsiness or dizziness  
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
 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  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P312 - Call a poison center or doctor if you feel unwell  
 P314 - Get medical advice/attention if you feel unwell.

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P321 - Specific treatment (see supplemental first aid instruction on this label)  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P370+P378 - In case of fire: Use media other than water to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
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

### 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 | Conc. |
|------------------------|--------------------|-------|
| hexane<br>(Component)  | (CAS-No.) 110-54-3 | 89.84 |
| acetone<br>(Component) | (CAS-No.) 67-64-1  | 10    |

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 : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

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### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.  
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up in absorbent material. Collect spillage.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.  
Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.  
Incompatible materials : Direct sunlight.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| 8141 OP Solution B |                                     |   |
|--------------------|-------------------------------------|---|
| ACGIH              | Local name                          | n-Hexane  |
| ACGIH              | ACGIH TWA (ppm)                     | 50 ppm  |
| ACGIH              | Remark (ACGIH)                      | CNS impair; peripheral neuropathy; eye irr; Skin; BEI |
| ACGIH              | Regulatory reference                | ACGIH 2018  |
| OSHA               | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 1800 mg/m <sup>3</sup>                                |
| OSHA               | OSHA PEL (TWA) (ppm)                | 500 ppm   |
| OSHA               | Regulatory reference (US-OSHA)      | OSHA  |
| acetone (67-64-1)  |                                     |   |
| ACGIH              | Local name                          | Acetone   |
| ACGIH              | ACGIH TWA (ppm)                     | 250 ppm   |
| ACGIH              | ACGIH STEL (ppm)                    | 500 ppm   |
| ACGIH              | Remark (ACGIH)                      | eye irr; CNS impair; BEI                              |
| ACGIH              | Regulatory reference                | ACGIH 2018  |
| OSHA               | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 2400 mg/m <sup>3</sup>                                |
| OSHA               | OSHA PEL (TWA) (ppm)                | 1000 ppm  |
| OSHA               | Regulatory reference (US-OSHA)      | OSHA  |
| hexane (110-54-3)  |                                     |   |
| ACGIH              | Local name                          | n-Hexane  |
| ACGIH              | ACGIH TWA (ppm)                     | 50 ppm  |
| ACGIH              | Remark (ACGIH)                      | CNS impair; peripheral neuropathy; eye irr; Skin; BEI |
| ACGIH              | Regulatory reference                | ACGIH 2018  |
| OSHA               | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 1800 mg/m <sup>3</sup>                                |
| OSHA               | OSHA PEL (TWA) (ppm)                | 500 ppm   |
| OSHA               | Regulatory reference (US-OSHA)      | OSHA  |

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### 8.2. Appropriate engineering controls

Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

#### Hand protection:

Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration

#### Eye protection:

Chemical goggles or safety glasses. Safety glasses

#### Skin and body protection:

Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact

#### Respiratory protection:

Wear appropriate mask

#### Personal protective equipment symbol(s):



#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                     |
|---|---------------------|
| Physical state                              | : Liquid            |
|   | : Colorless         |
|   | : characteristic    |
| Odor threshold                              | : No data available |
| pH  | : No data available |
| Melting point                               | : No data available |
| Freezing point                              | : No data available |
| Boiling point                               | : No data available |
| Flash point                                 | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas)                   | : 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 |
| Log Pow                                     | : No data available |
| Auto-ignition temperature                   | : No data available |
| Decomposition temperature                   | : No data available |
| Viscosity, kinematic                        | : No data available |
| Viscosity, dynamic                          | : No data available |
| Explosion limits                            | : No data available |
| Explosive properties                        | : No data available |
| Oxidizing properties                        | : No data available |

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### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| <b>acetone (67-64-1)</b>   |   |
|----------------------------|---|
| LD50 oral rat              | 5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)     |
| LD50 dermal rabbit         | 20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal) |
| LC50 inhalation rat (mg/l) | 76 mg/l (Other, 4 h, Rat, Female, Experimental value, Inhalation (vapours))               |
| ATE US (oral)              | 5800 mg/kg body weight  |
| ATE US (dermal)            | 20000 mg/kg body weight   |
| ATE US (vapors)            | 76 mg/l/4h  |
| ATE US (dust, mist)        | 76 mg/l/4h  |

| <b>hexane (110-54-3)</b>  |   |
|---------------------------|---|
| LD50 oral rat             | 16000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rabbit        | > 3350 mg/kg body weight (Equivalent or similar to OECD 402, 4 h, Rabbit, Male, Read-across, Dermal)      |
| LC50 inhalation rat (ppm) | > 5000 ppm (Equivalent or similar to OECD 403, 24 h, Rat, Male, Experimental value, Inhalation (vapours)) |
| ATE US (oral)             | 16000 mg/kg body weight   |

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

| acetone (67-64-1) |   |
|-------------------|---|
| LC50 fish 1       | 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Nominal concentration) |

#### 12.2. Persistence and degradability

| 8141 OP Solution B              |  |
|---------------------------------|--|
| Persistence and degradability   | Not established.   |
| acetone (67-64-1)               |  |
| Persistence and degradability   | Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 1.43 g O <sub>2</sub> /g substance   |
| Chemical oxygen demand (COD)    | 1.92 g O <sub>2</sub> /g substance   |
| ThOD                            | 2.2 g O <sub>2</sub> /g substance  |
| BOD (% of ThOD)                 | 0.872 (20 day(s), Literature study)  |
| hexane (110-54-3)               |  |
| Persistence and degradability   | Biodegradable in the soil. Readily biodegradable in water.   |
| ThOD                            | 3.52 g O <sub>2</sub> /g substance   |

#### 12.3. Bioaccumulative potential

| 8141 OP Solution B            |  |
|-------------------------------|--|
| Bioaccumulative potential     | Not established.   |
| acetone (67-64-1)             |  |
| BCF fish 1                    | 0.69 (Pisces)  |
| BCF other aquatic organisms 1 | 3 (BCFWIN, Calculated value)                                     |
| Log Pow                       | -0.24 (Test data)  |
| Bioaccumulative potential     | Not bioaccumulative.   |
| hexane (110-54-3)             |  |
| BCF fish 1                    | 501.187 (Other, Pimephales promelas, QSAR)                       |
| Log Pow                       | 4 (Experimental value, Equivalent or similar to OECD 107, 20 °C) |
| Bioaccumulative potential     | Potential for bioaccumulation (500 ≤ BCF ≤ 5000).                |

#### 12.4. Mobility in soil

| acetone (67-64-1) |   |
|-------------------|---|
| Surface tension   | 0.0237 N/m  |
| Ecology - soil    | No (test)data on mobility of the substance available. |
| hexane (110-54-3) |   |
| Surface tension   | 0.018 N/m (25 °C, 1 g/l)                              |
| Log Koc           | 3.34 (log Koc, QSAR)                                  |
| Ecology - soil    | Low potential for mobility in soil.                   |

#### 12.5. Other adverse effects

| 8141 OP Solution B |  |
|--------------------|--|
|                    |  |
| acetone (67-64-1)  |  |
|                    |  |
| hexane (110-54-3)  |  |
|                    |  |

Other information : Avoid release to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1993 Flammable liquids, n.o.s. (hexane ; acetone), 3, II  
UN-No.(DOT) : UN1993  
Proper Shipping Name (DOT) : Flammable liquids, n.o.s.  
hexane ; acetone  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 3 - Flammable liquid



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Symbols : G - Identifies PSN requiring a technical name  
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.  
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).  
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L  
DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.  
Emergency Response Guide (ERG) Number : 128  
Other information : No supplementary information available.

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

- Transport document description (IMDG) : UN 1993 FLAMMABLE LIQUID, N.O.S. (hexane ; acetone), 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS  
UN-No. (IMDG) : 1993  
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.  
Class (IMDG) : 3 - Flammable liquids

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Packing group (IMDG) : II - substances presenting medium danger  
Limited quantities (IMDG) : 1 L

### Air transport

Transport document description (IATA) : UN 1993 Flammable liquid, n.o.s. (hexane ; acetone), 3, II, ENVIRONMENTALLY HAZARDOUS  
UN-No. (IATA) : 1993  
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.  
Class (IATA) : 3 - Flammable Liquids  
Packing group (IATA) : II - Medium Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### acetone (67-64-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ : 5000 lb

#### hexane (110-54-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ : 5000 lb

### 15.2. International regulations

#### CANADA

##### acetone (67-64-1)

Listed on the Canadian DSL (Domestic Substances List)

##### hexane (110-54-3)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

##### hexane (110-54-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

### 15.3. US State regulations

#### hexane (110-54-3)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) | Maximum allowable dose level (MADL) |
|---|---|---|---|----------------------------------|-------------------------------------|
| No  | No  | No  | Yes   |                                  |                                     |

## SECTION 16: Other information

Revision date : 05/24/2019  
Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.  
Other information : None.



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Full text of H-phrases:

|      |   |
|------|---|
| H225 | Highly flammable liquid and vapour                                |
| H315 | Causes skin irritation  |
| H319 | Causes serious eye irritation                                     |
| H336 | May cause drowsiness or dizziness                                 |
| H373 | May cause damage to organs through prolonged or repeated exposure |

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