1. Identification

Product identifier LPS® CFC Free Nu

Other means of identification

Part Number 05416

Recommended use A spray cleaner designed to remove dirt, moisture, dust, flux or oxides from the internal components of electronic or precision equipment such as circuit boards.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name LPS Laboratories, a division of Illinois Tool Works, Inc.
Address 4647 Hugh Howell Rd.
Tucker, GA 30084
Country (U.S.A.)
Tel: +1 770-243-8800
In Case of Emergency
1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)
Website www.lpslabs.com
E-mail sds@lpslabs.com

2. Hazard(s) identification

Physical hazards Liquefied gas
Gases under pressure Category 2

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Reproductive toxicity (fertility) Category 2
Specific target organ toxicity, single exposure Category 3 narcotic effects

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Flammable aerosol. Contains gas under pressure; may explode if heated. Toxic to aquatic life with long lasting effects. Suspected of damaging fertility or the unborn child. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not spray on an open flame or other ignition source. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Pressurized container: Do not pierce or burn, even after use. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
81.79% of the mixture consists of component(s) of unknown acute oral toxicity. 92.33% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methylpentane</td>
<td></td>
<td>107-83-5</td>
<td>31.08</td>
</tr>
<tr>
<td>ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a)</td>
<td>REFRIGERANT GAS R-134A</td>
<td>811-97-2</td>
<td>26</td>
</tr>
<tr>
<td>3-Methylpentane</td>
<td></td>
<td>96-14-0</td>
<td>11.1</td>
</tr>
<tr>
<td>2,3-Dimethylbutane</td>
<td></td>
<td>79-29-8</td>
<td>10.36</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>ISOPROPYL ALCOHOL (IPA)</td>
<td>67-63-0</td>
<td>8.14</td>
</tr>
<tr>
<td>2,2-Dimethylbutane</td>
<td></td>
<td>75-83-2</td>
<td>7.4</td>
</tr>
<tr>
<td>N-hexane</td>
<td></td>
<td>110-54-3</td>
<td>1.9684</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td>3.9516</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or Poison Control Center immediately.

Ingestion
Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed
Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Behavioral changes. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Alcohol resistant foam. Water fog. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
By heating and fire, harmful vapors/gases may be formed. Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire-fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards

Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use foam to blanket spilled material. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Use non-sparking tools and explosion-proof equipment.

Do not breathe mist or vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure.

Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Level 3 Aerosol.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Eliminate sources of ignition.

Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>PEL</td>
<td>980 mg/m³</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>PEL</td>
<td>1800 mg/m³</td>
</tr>
</tbody>
</table>

Value | 400 ppm |

Material name: LPS® CFC Free Nu

SDS US

583 Version #: 04 Revision date: 05-16-2014 Issue date: 08-30-2013
### US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dimethylbutane (CAS 78-3-2)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>2,3-Dimethylbutane (CAS 79-29-8)</td>
<td>TWA</td>
<td>500 ppm</td>
</tr>
<tr>
<td>2-Methylpentane (CAS 107-83-5)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>3-Methylpentane (CAS 96-14-0)</td>
<td>TWA</td>
<td>500 ppm</td>
</tr>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

### US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1225 mg/m³</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>180 mg/m³</td>
</tr>
</tbody>
</table>

### US. Workplace Environmental Exposure Level (WEEL) Guides

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a) (CAS 811-97-2)</td>
<td>TWA</td>
<td>1000 ppm</td>
<td>8 hour</td>
</tr>
</tbody>
</table>

### Biological limit values

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>40 mg/l</td>
<td>Acetone</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>0.4 mg/l</td>
<td>2,5-Hexanedio n, without hydrolysis</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

### Exposure guidelines

#### US - California OELs: Skin designation

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

#### US ACGIH Threshold Limit Values: Skin designation

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

### Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

#### Skin protection

- **Hand protection**
  
  For prolonged or repeated skin contact use suitable protective gloves. Chemical resistant gloves are recommended.

- **Other**
  
  Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.

#### Respiratory protection

No personal respiratory protective equipment normally required. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

#### Thermal hazards

None known.
General hygiene considerations
When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
  Clear. Liquid.

Physical state
  Gas.

Form
  Aerosol.

Color
  Clear colorless or nearly colorless

Odor
  Mild.

Odor threshold
  Not established

pH
  Not available.

Melting point/freezing point
  -198.4 °F (-128 °C) estimated

Initial boiling point and boiling range
  140.9 °F (60.5 °C) Dispensed liquid

Flash point
  < 1.4 °F (< -17.0 °C) Tag Closed Cup Dispensed liquid

Evaporation rate
  < 1 BuAc (Ethyl Ether= 1)

Flammability (solid, gas)
  Not available.

Upper/lower flammability or explosive limits
  Flammability limit - lower (%)
    0.6 %

  Flammability limit - upper (%)
    7 %

  Explosive limit - lower (%)
  Not available.

  Explosive limit - upper (%)
  Not available.

Vapor pressure
  352.53 mm Hg @ 38°C

Vapor density
  > 1 (air = 1)

Relative density
  Not available.

Solubility(ies)

  Solubility (water)
    < 10 % by weight

  Partition coefficient (n-octanol/water)
  Not established

Auto-ignition temperature
  582.8 °F (306 °C)

Decomposition temperature
  Not Established

Viscosity
  < 3 cSt @ 25°C

Other information

  Heat of combustion
    > 30 kJ/g

  Percent volatile
    100 %

  Specific gravity
    0.8 - 0.82 @ 20°C

  VOC (Weight %)
    74 % per State & Federal Consumer Product Regulations; 600 g/L per SCAQMD Rule 102

10. Stability and reactivity

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

Chemical stability
  Risk of ignition. Instability caused by elevated temperatures.

Possibility of hazardous reactions
  Hazardous polymerization does not occur.

Conditions to avoid
  Avoid temperatures exceeding the flash point.

Incompatible materials

Hazardous decomposition products
  Carbon oxides.
11. Toxicological information

Information on likely routes of exposure

**Ingestion**
Based on available data, the classification criteria are not met.

**Inhalation**
Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

**Skin contact**
Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

**Eye contact**
Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Skin irritation. Defatting of the skin. Irritating to eyes and respiratory system. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

**Acute toxicity**
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16.4 ml/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>&gt; 10000 ppm</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Dog</td>
<td>4797 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>3600 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>5.03 g/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>4.7 g/kg</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>1509 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>1099 mg/kg</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5 ml/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Mouse</td>
<td>48000 mg/l, 4 Hours</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt; 5000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 31.86 mg/l</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>24 ml/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Wistar rat</td>
<td>49 mg/kg</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**
Causes skin irritation.

**Serious eye damage/eye irritation**
Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization**
Based on available data, the classification criteria are not met.

**Skin sensitization**
Based on available data, the classification criteria are not met.
Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
Based on available data, the classification criteria are not met.

ACGIH Carcinogens
Isopropanol (CAS 67-63-0) A4 Not classifiable as a human carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
Suspected of damaging fertility. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure
Narcotic effects.

Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
Based on available data, the classification criteria are not met.

Chronic effects
Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.

Further information
Symptoms may be delayed.

12. Ecological information

Ecotoxicity
Toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus)</td>
</tr>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas)</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

Persistence and degradability
Not inherently biodegradable.

Bioaccumulative potential
No data available for this product.

Partition coefficient n-octanol / water (log Kow)

<table>
<thead>
<tr>
<th>Component</th>
<th>Log Kow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dimethylbutane</td>
<td>3.82</td>
</tr>
<tr>
<td>2,3-Dimethylbutane</td>
<td>3.42</td>
</tr>
<tr>
<td>2-Methylpentane</td>
<td>3.74</td>
</tr>
<tr>
<td>3-Methylpentane</td>
<td>3.6</td>
</tr>
<tr>
<td>ETHANE, 1,1,1,2-TETRAFLUORO-(HFC-134a)</td>
<td>1.06</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>0.05</td>
</tr>
<tr>
<td>N-hexane</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Mobility in soil
Readily absorbed into soil.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code
D001: Waste Flammable material with a flash point <140 F
D003: Waste Reactive material

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
### 14. Transport information

**DOT**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>Aerosols, flammable, MARINE POLLUTANT</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.1</td>
</tr>
<tr>
<td>Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Label(s)</td>
<td>2.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Special precautions for user**

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

**Packaging exceptions**

306

**Packaging non bulk**

None

**Packaging bulk**

None

**IATA**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>Aerosols, flammable</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.1</td>
</tr>
<tr>
<td>Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
</tr>
<tr>
<td>ERG Code</td>
<td>2X</td>
</tr>
</tbody>
</table>

**Special precautions for user**

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

**Other information**

- Passenger and cargo aircraft: Allowed.
- Cargo aircraft only: Allowed.

**IMDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>AEROSOLS, flammable, MARINE POLLUTANT</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.1</td>
</tr>
<tr>
<td>Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Label(s)</td>
<td>2.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
<tr>
<td>EmS</td>
<td>F-D, S-U</td>
</tr>
</tbody>
</table>

**Special precautions for user**

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. Not applicable.

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

**DOT**

[Image of flammable gas hazard sign]

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**Material name:** LPS® CFC Free Nu

**Version #: 04**  **Revision date: 05-16-2014**  **Issue date: 08-30-2013**
15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
N-hexane (CAS 110-54-3) Listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-HEXANE</td>
<td>110-54-3</td>
<td>1.9684</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
N-hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List
2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
3-Methylpentane (CAS 96-14-0)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

**US. New Jersey Worker and Community Right-to-Know Act**
2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

**US. Pennsylvania Worker and Community Right-to-Know Law**
2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

**US. Rhode Island RTK**
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

**US. California Proposition 65**
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

### International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

**Issue date**
08-30-2013

**Revision date**
05-16-2014

**Version #**
04

**References**
ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

**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.

**Revision Information**
GHS: Classification