# SUNAIR A/C FLUSH 32 FL.OZ.
## Safety Data Sheet

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

Revision date: 08/20/2014

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>SUNAIR A/C FLUSH 32 FL.OZ.</td>
</tr>
<tr>
<td>Product code</td>
<td>OB5057</td>
</tr>
</tbody>
</table>

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: A/C Flush

### 1.3. Details of the supplier of the safety data sheet

Sunair Products, Inc.
2525 Minnis Dr.
Fort Worth, Texas 76117
T 817-831-6301

### 1.4. Emergency telephone number

Emergency number: CHEMTREC 24 Hour 1-800-424-9300

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification (GHS-US)**
- Flam. Liq. 2 H225
- Skin Irrit. 2 H315
- Eye Irrit. 2A H319
- Rep. 2 H361
- STOT SE 3 H336
- STOT RE 2 H373
- Asp. Tox. 1 H304

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

<table>
<thead>
<tr>
<th>Hazard pictograms (GHS-US)</th>
<th>GHS02</th>
<th>GHS07</th>
<th>GHS08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word (GHS-US)</td>
<td>Danger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard statements (GHS-US)</td>
<td>H225: Highly flammable liquid and vapor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H304: May be fatal if swallowed and enters airways</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H315: Causes skin irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H319: Causes serious eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H336: May cause drowsiness or dizziness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H361: Suspected of damaging fertility or the unborn child</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H373: May cause damage to organs through prolonged or repeated exposure</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Precautionary statements (GHS-US):
- P201: Obtain special instructions
- 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
- P233: Keep container tightly closed
- 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, fumes, gas, mist, vapor spray
- P261: Avoid breathing dust, fume, gas, mist, vapor spray
- P264: Wash affected areas thoroughly after handling
- P271: Use only outdoors or in a well-ventilated area
- P280: Wear protective gloves, protective clothing, eye protection, face protection
- P301+P310: If swallowed: Immediately call a poison control center, doctor, physician,
- P302+P352: If on skin: Wash with plenty of soap and water
- P303+P351+P355: 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
2.3. Other hazards

Other hazards not contributing to the classification: None under normal conditions.

2.4. Unknown acute toxicity (GHS-US)

75 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
75 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptane, branched cyclic</td>
<td>(CAS No) 426260-76-6</td>
<td>72 - 75</td>
<td>Flam. Liq. 1, H224, Skin Irrit. 2, H315, STOT SE 3, H336, Asp. Tox. 1, H304, Aquatic Chronic 3, H412</td>
</tr>
<tr>
<td>heptane</td>
<td>(CAS No) 142-82-5</td>
<td>18.75 - 33.75</td>
<td>Flam. Liq. 2, H225, Skin Irrit. 2, H315, STOT SE 3, H336, Asp. Tox. 1, H304, Aquatic Acute 1, H400, Aquatic Chronic 1, H410</td>
</tr>
<tr>
<td>2-propanol</td>
<td>(CAS No) 67-63-0</td>
<td>10 - 30</td>
<td>Flam. Liq. 2, H225, Eye Irrit. 2A, H319, STOT SE 3, H336</td>
</tr>
<tr>
<td>Toluene</td>
<td>(CAS No) 108-88-3</td>
<td>0.75 - 3</td>
<td>Flam. Liq. 2, H225, Skin Irrit. 2, H315, Repr. 2, H361, STOT SE 3, H336, STOT RE 2, H373, Asp. Tox. 1, H304</td>
</tr>
</tbody>
</table>

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: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment: See section 4.1 on this label.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Suspected of damaging fertility or the unborn child. Causes damage to organs.

Symptoms/injuries after inhalation: May cause drowsiness or dizziness.

Symptoms/injuries after skin contact: Causes skin irritation.

Symptoms/injuries after eye contact: Causes serious eye irritation.

Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available
SECTION 5: Firefighting measures

5.1. Extinguishing media


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

5.2. Special hazards arising from the substance or mixture

Fire hazard: Highly flammable liquid and vapor.

Explosion hazard: May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

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

General measures: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Protective equipment: Gloves. Safety glasses.

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection. Avoid breathing dust, fume, gas, mist, vapor spray.

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

For containment: Dam up the liquid spill.

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

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

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable.

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. No naked lights. No smoking. Use only non-sparking tools. Obtain special instructions. Do not handle until all safety precautions have been read and understood. Avoid breathing dust, fume, gas, mist, vapor spray. Use only outdoors or in a well-ventilated area.

Hygiene measures: Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Keep in fireproof place. Keep container tightly closed.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>USA ACGIH ACGIH TWA (mg/m³)</th>
<th>USA ACGIH ACGIH TWA (ppm)</th>
<th>USA ACGIH ACGIH STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>37 mg/m³</td>
<td>10 ppm</td>
<td>560</td>
</tr>
</tbody>
</table>
**SECTION 8: Exposure controls**

**Appropriate engineering controls:** Local exhaust ventilation, vent hoods.

**Personal protective equipment:** Avoid all unnecessary exposure. Gloves. Safety glasses.

- **Hand protection:** Wear protective gloves.
- **Eye protection:** Chemical goggles or safety glasses.
- **Skin and body protection:** Wear suitable protective clothing.
- **Respiratory protection:** Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.
- **Other information:** Do not eat, drink or smoke during use.

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### Toluene (108-88-3)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>STEL (ppm)</td>
<td>150 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>Ceiling (ppm)</td>
<td>500 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>200 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (Ceiling) (ppm)</td>
<td>300 ppm</td>
</tr>
</tbody>
</table>

### Heptane (142-82-5)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>STEL (ppm)</td>
<td>400 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>TWA (ppm)</td>
<td>400 ppm</td>
</tr>
</tbody>
</table>

### Heptane, branched cyclic (426260-76-6)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>STEL (ppm)</td>
<td>500 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>TWA (ppm)</td>
<td>400 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

### 2-Propanol (67-63-0)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>STEL (mg/m³)</td>
<td>1225 mg/m³</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>TWA (ppm)</td>
<td>980 mg/m³</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>TWA (mg/m³)</td>
<td>400 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>400 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>980 mg/m³</td>
</tr>
</tbody>
</table>

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### SECTION 9: Physical and chemical properties

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

- **Physical state:** Liquid
- **Appearance:** Liquid.
- **Molecular mass:** 60.10 g/mol
- **Color:** Colourless.
- **Odor:** Solvent-like odour. Lemon.
- **Odor threshold:** 3 - 610 ppm
  - 8 - 1499 mg/m³
- **pH:** No data available
- **Relative evaporation rate (butyl acetate=1):** 2.3
- **Relative evaporation rate (ether=1):** 21
- **Melting point:** -88 °C
- **Freezing point:** No data available
- **Boiling point:** 82 °C
- **Flash point:** 12 °C
- **Critical temperature:** 235 °C
- **Auto-ignition temperature:** 399 °C
- **Decomposition temperature:** No data available
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>44 hPa</td>
</tr>
<tr>
<td>Vapor pressure at 50 °C</td>
<td>229 hPa</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>47600 hPa</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>2.1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.79</td>
</tr>
<tr>
<td>Relative density of saturated gas/air mixture</td>
<td>1.05</td>
</tr>
<tr>
<td>Density</td>
<td>785 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Poorly soluble in water. Water: Poor Ether: Complete Ethanol: Complete Acetone: soluble</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>2.5316 mm²/s (25 °C)</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.0020 Pa.s (25 °C)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>2 - 13 vol % 50 - 335 g/m³</td>
</tr>
</tbody>
</table>

9.2. Other information

Minimum ignition energy: 0.65 mJ
Specific conductivity: 5.8 µS/m
Saturation concentration: 106 g/m³
VOC content: 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Not established. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials
Strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Compound</th>
<th>Test Species</th>
<th>Dose</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene  (108-88-3)</td>
<td>LD50 oral rat</td>
<td>5580 mg/kg body weight</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 5000 mg/kg body weight</td>
<td>LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 28.1 mg/l/4h (Rat; Air, Literature study)</td>
<td></td>
</tr>
<tr>
<td>Heptane (142-82-5)</td>
<td>LD50 oral rat</td>
<td>&gt; 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; &gt;5000 mg/kg bodyweight; Rat; Read-across)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; &gt;2000 mg/kg bodyweight; Rabbit; Read-across)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (mg/l)</td>
<td>103 mg/l/4h (Rat; Literature study)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (ppm)</td>
<td>25000 ppm/4h (Rat; Literature study)</td>
<td></td>
</tr>
</tbody>
</table>
Heptane, branched cyclic (426260-76-6)

LD50 oral rat > 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit > 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l) 103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm) 25000 ppm/4h (Rat; Literature study)

2-propanol (67-63-0)

LD50 oral rat 5045 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 5840 mg/kg bodyweight; Rat)
LD50 dermal rabbit 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l) 73 mg/l/4h (Rat)

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
Carcinogenicity: Not classified
Based on available data, the classification criteria are not met

Toluene (108-88-3)

IARC group 3

2-propanol (67-63-0)

IARC group 3

Reproductive toxicity: Suspected of damaging fertility or the unborn child. 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. Based on available data, the classification criteria are not met
Aspiration hazard: May be fatal if swallowed and enters airways. Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation: May cause drowsiness or dizziness.
Symptoms/injuries after skin contact: Causes skin irritation.
Symptoms/injuries after eye contact: Causes serious eye irritation.
Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Toluene (108-88-3)
LC50 fish 1 24 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1 84 mg/l (24 h; Daphnia magna; Locomotor effect)
LC50 fish 2 13 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2 11.5 - 19.6 mg/l (48 h; Daphnia magna)
Threshold limit alga 1 > 400 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit alga 2 105 mg/l (192 h; Microcystis aeruginosa)

Heptane (142-82-5)
LC50 fish 1 375 mg/l (96 h; Tilapia mossambica; Nominal concentration)
LC50 other aquatic organisms 1 > 1000 mg/l (96 h)
EC50 Daphnia 1 1.5 mg/l (48 h; Daphnia magna)
LC50 fish 2 > 100 mg/l (96 h; Oncorhynchus kisutch)
TLM fish 1 4924 mg/l (48 h; Gambusia affinis)
Threshold limit other aquatic organisms 1 > 1000 mg/l (96 h)
Threshold limit alga 1 > 200 mg/l (Scenedesmus quadricauda; Toxicity test)
Threshold limit alga 2 1.5 mg/l (8 h; Algae; Photosynthesis)

2-propanol (67-63-0)
LC50 fish 1 4200 mg/l (96 h; Rasbora heteromorpha; Flow-through system)
EC50 Daphnia 1 > 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2 9640 mg/l (96 h; Pimephales promelas; Lethal)
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<table>
<thead>
<tr>
<th>Compound</th>
<th>EC50 Daphnia 2</th>
<th>Threshold limit algae 1</th>
<th>Threshold limit algae 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-propanol (67-63-0)</td>
<td>13299 mg/l (48 h; Daphnia magna)</td>
<td>&gt; 1000 mg/l (72 h; Scenedesmus subspicatus; Growth rate)</td>
<td>1800 mg/l (72 h; Algae; Cell numbers)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

**SUNAIR A/C FLUSH 32 FL.OZ.**

**Persistence and degradability**
Not established.

**Toluene (108-88-3)**

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.15 g O₂ / g substance</td>
<td>2.52 g O₂ / g substance</td>
<td>3.13 g O₂ / g substance</td>
<td>0.69 % ThOD</td>
</tr>
</tbody>
</table>

**heptane (142-82-5)**

**Persistence and degradability**
Readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil.

<table>
<thead>
<tr>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.92 g O₂ / g substance</td>
<td>0.06 g O₂ / g substance</td>
<td>3.52 g O₂ / g substance</td>
<td>&gt; % ThOD (5 day(s)) &gt; 0.5</td>
</tr>
</tbody>
</table>

**Heptane, branched cyclic (426260-76-6)**

**Persistence and degradability**
May cause long-term adverse effects in the environment.

**2-propanol (67-63-0)**

**Persistence and degradability**
Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.

<table>
<thead>
<tr>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.19 g O₂ / g substance</td>
<td>2.23 g O₂ / g substance</td>
<td>2.40 g O₂ / g substance</td>
<td>0.49 % ThOD</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

**SUNAIR A/C FLUSH 32 FL.OZ.**

**Bioaccumulative potential**
Not established.

**Toluene (108-88-3)**

<table>
<thead>
<tr>
<th>BCF fish 1</th>
<th>BCF fish 2</th>
<th>BCF other aquatic organisms 1</th>
<th>BCF other aquatic organisms 2</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.2 (Anguilla japonica)</td>
<td>90 (72 h; Leuciscus idus)</td>
<td>380 (24 h; Chlorella sp.; Fresh weight)</td>
<td>4.2 (Mytilus edulis; Fresh weight)</td>
<td>2.73 (Experimental value; Other; 20 °C)</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
</tr>
</tbody>
</table>

**heptane (142-82-5)**

<table>
<thead>
<tr>
<th>BCF other aquatic organisms 1</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>552</td>
<td>4.66 (Experimental value; 4.5; Literature)</td>
<td>Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).</td>
</tr>
</tbody>
</table>

**Heptane, branched cyclic (426260-76-6)**

**Bioaccumulative potential**
Not established.

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05 (Experimental value)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

**Toluene (108-88-3)**

<table>
<thead>
<tr>
<th>Surface tension</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.03 N/m (20 °C)</td>
</tr>
</tbody>
</table>

**heptane (142-82-5)**

<table>
<thead>
<tr>
<th>Surface tension</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.020 N/m (20 °C)</td>
</tr>
</tbody>
</table>

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Surface tension</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.021 N/m (25 °C)</td>
</tr>
</tbody>
</table>
**SUNAIR A/C FLUSH 32 FL.OZ.**

Safety Data Sheet

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

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**12.5. Other adverse effects**

Other information : Avoid release to the environment.

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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

---

**SECTION 14: Transport information**

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1993, Flammable liquids, n.o.s. (Heptane, 2-propanol), 3, II, Limited Quantity

ICAO/IATA (air): UN1993, Flammable liquids, n.o.s. (Heptane, 2-propanol), 3, II, Limited Quantity

IMO/IMDG (water): UN1993, Flammable liquids, n.o.s. (Heptane, 2-propanol), 3, II, Limited Quantity

Special Provisions:

B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.

B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

T4 - between 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.

TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

---

**14.2. UN proper shipping name**

DOT Proper Shipping Name : Flammable liquids, n.o.s. (Heptane, 2-propanol)

Department of Transportation (DOT) Hazard Classes : Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Class 3 - Flammable liquid

DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.

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---

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
SUNAIR A/C FLUSH 32 FL.OZ.

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Overland transport
No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

SUNAIR A/C FLUSH 32 FL.OZ.

SARA Section 311/312 Hazard Classes

<table>
<thead>
<tr>
<th>Substance</th>
<th>Fire hazard</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (108-88-3)</td>
<td>Class B Division 2 - Flammable Liquid</td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
<td></td>
</tr>
<tr>
<td>Heptane, branched cyclic (426260-76-6)</td>
<td>Class B Division 2 - Flammable Liquid</td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
<td></td>
</tr>
<tr>
<td>2-propanol (67-63-0)</td>
<td>Class B Division 2 - Flammable Liquid</td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA

SUNAIR A/C FLUSH 32 FL.OZ.

WHMIS Classification

<table>
<thead>
<tr>
<th>Substance</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (108-88-3)</td>
<td>Class B Division 2 - Flammable Liquid</td>
</tr>
<tr>
<td>Heptane, branched cyclic (426260-76-6)</td>
<td>Class B Division 2 - Flammable Liquid</td>
</tr>
<tr>
<td>2-propanol (67-63-0)</td>
<td>Class B Division 2 - Flammable Liquid</td>
</tr>
</tbody>
</table>

EU-Regulations

SUNAIR A/C FLUSH 32 FL.OZ.

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Classification according to Directive 67/548/EEC or 1999/45/EC
F; R11
Xn; R65
Xi; R36/38
N; R50/53
R67
Full text of R-phrases: see section 16

15.2.2. National regulations
No additional information available

15.3. US State regulations

Toluene (108-88-3)

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

SECTION 16: Other information

Indication of changes: Revision - See “.

Other information: None.

Full text of H-phrases: see section 16:

Aquatic Acute 1 Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1 Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3 Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1 Aspiration hazard Category 1
Eye Irrit. 2A Serious eye damage/eye irritation Category 2A
Flam. Liq. 1 Flammable liquids Category 1
Flam. Liq. 2 Flammable liquids Category 2
Repr. 2 Reproductive toxicity Category 2
Skin Irrit. 2 Skin corrosion/irritation Category 2
STOT RE 2 Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3 Specific target organ toxicity (single exposure) Category 3
H224 Extremely flammable liquid and vapor
H225 Highly flammable liquid and vapor
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness
H361 Suspected of damaging fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
H412 Hazardous to aquatic life with long lasting effects

NFPA health hazard: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 3 Serious Hazard
Physical: 0 Minimal Hazard
Personal Protection: B

SDS US (GHS HazCom 2012) - Technical Chemical
The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product.

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