Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : STARFIRE Isopropanol 99%
Product Use Description : Alcohol solvent
Manufacturer or supplier's details Company : Coolants Plus Inc.

2570 Van Hook Ave.
Hamilton, OH 45015

Emergency telephone number:
Transport North America: CHEMTREC 800.424.9300

Additional Information:
Responsible Party: Product Safety Group
SDS Requests: 1-888-258-8723

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids : Category 2
Eye irritation : Category 2A
Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS Label element
Hazard pictograms :

Signal word : Danger
Hazard statements : H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements : Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.

MSDS Number: 100000002859
1 / 16
Isopropanol 99%

**Potential Health Effects**

**Carcinogenicity:**

**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Clear, Colorless</td>
</tr>
<tr>
<td>Odour</td>
<td>alcohol-like</td>
</tr>
<tr>
<td>Hazard Summary</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

<table>
<thead>
<tr>
<th>Hazardous components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAS-No.</strong></td>
</tr>
<tr>
<td>67-63-0</td>
</tr>
</tbody>
</table>

Molecular formula : (CH3)2 CHOH

Synonyms : Isopropanol Anhydrous/Isopropyl Alcohol ACS Grade/Isopropyl Alcohol/TT I 735 Grade A/Velvasol 425/Value Grade Isopropanol, TT I 735A Grade B

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.

In case of skin contact : If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed: Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products: Carbon oxides

Specific extinguishing methods: Use a water spray to cool fully closed containers.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

NFPA Flammable and Combustible Liquids Classification:
Flammable Liquid Class IB

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions:
- Prevent product from entering drains.
- Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:
- Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling:
- Avoid formation of aerosol.
- Do not breathe vapours/dust.
- Avoid exposure - obtain special instructions before use.
- Avoid contact with skin and eyes.
- For personal protection see section 8.
- Smoking, eating and drinking should be prohibited in the application area.
- Take precautionary measures against static discharges.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Open drum carefully as content may be under pressure.
- Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage:
- No smoking.
- Keep container tightly closed in a dry and well-ventilated place.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Observe label precautions.
- Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Value type</th>
<th>Control parameter</th>
<th>Basis</th>
</tr>
</thead>
</table>

MSDS Number: 100000002859 5 / 16 Isopropanol 99%
Isopropanol 99% (Form of exposure) / Permissible concentration

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>Isopropyl alcohol</td>
<td>TWA</td>
<td>In urine</td>
<td>End of shift at end of work-week</td>
<td>40 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required. In the case of vapour formation use a respirator with an approved filter.

Hand protection Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear, Colorless</td>
</tr>
<tr>
<td>Odour</td>
<td>alcohol-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>7 @ 20 - 25 °C (68 - 77 °F)</td>
</tr>
<tr>
<td>Freezing Point (Melting point/freezing point)</td>
<td>-92 - -89 °C (-134 - -128 °F)</td>
</tr>
<tr>
<td>Boiling Point (Boiling point/boiling range)</td>
<td>82 - 82.3 °C (180 - 180.1 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>12 - 13 °C (54 - 55 °F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>2 (Butyl Acetate = 1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Burning rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>12 - 19 %(V)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>2.0 - 3.3 %(V)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>33 - 45.4 mmHg @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>2.1 @ 15 - 20 °C (59 - 68 °F)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.7855 - 0.79 @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Density</td>
<td>0.79 g/cm3 @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Solubility in other sol-</td>
<td>No data available</td>
</tr>
</tbody>
</table>
VENTS

Partition coefficient: n-octanol/water : log Pow: 0.05 @ 25 °C (77 °F)

Auto-ignition temperature : 363 - 425 °C

Thermal decomposition : No data available

Viscosity

Viscosity, dynamic : 2.4 - 2.43 mPa.s @ 20 °C (68 °F)

Viscosity, kinematic : 2.6 mm²/s @ 25 °C (77 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.

Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.

Incompatible materials : acetaldehyde
Aldehydes
aluminum
Alkali metals
Amines
Chlorine
Ethylene oxide
halogens
Iron
isocyanates
Strong acids
Strong oxidizing agents

Hazardous decomposition products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:
67-63-0:
Acute oral toxicity : LD50 (Rat): 5,045 mg/kg
Acute inhalation toxicity : LC50 (Rat): 16000 ppm
Acute dermal toxicity : LD50 (Rabbit): 12,800 mg/kg

Skin corrosion/irritation

Product:
Result: Irritating to skin.

Components:
67-63-0:
Species: Rabbit
Result: Mild skin irritation

Serious eye damage/eye irritation

Product:
Result: Irritating to eyes.

Components:
67-63-0:
Species: Rabbit
Result: Irritating to eyes.

Respiratory or skin sensitisation

Germ cell mutagenicity

Components:
67-63-0:
Genotoxicity in vitro : Test Type: Ames test
Test species: Salmonella typhimurium
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: Mouse
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity - Assessment: Did not show mutagenic effects in animal experiments.

Carcinogenicity

Components:
67-63-0: Species: Rat
         NOAEL: 5,000 ppm

Method: OECD Test Guideline 451

Carcinogenicity - Assessment: Not classifiable as a human carcinogen.

Reproductive toxicity

Components:
67-63-0: Reproductive toxicity - Assessment: Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

STOT - single exposure

Product: No data available

Components:
67-63-0:

<table>
<thead>
<tr>
<th>Exposure routes</th>
<th>Target Organs</th>
<th>Assessment</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Central nervous system</td>
<td>May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.</td>
<td></td>
</tr>
</tbody>
</table>

STOT - repeated exposure

Product: No data available

Components:
67-63-0: No data available
Aspiration toxicity

Product:
No aspiration toxicity classification

Further information

Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components: 67-63-0:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Toxicity to algae : Remarks: No data available

Persistence and degradability

Product:
Biodegradability : Remarks: Readily biodegradable

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Product:
Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information

: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.

Contaminated packaging

: Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): UN1219, Isopropanol, 3, II, Flash Point:12 - 13 °C(54 - 55 °F)

IMDG (International Maritime Dangerous Goods): UN1219, ISOPROPANOL, 3, II

DOT (Department of Transportation): UN1219, Isopropanol, 3, II

SECTION 15. REGULATORY INFORMATION

OSHA Hazards

: Flammable liquid, Moderate skin irritant, Moderate eye irritant

WHMIS Classification

: B2: Flammable liquid
D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards
- Fire Hazard
- Immediate (Acute) Health Hazard

SARA 302
- No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313
- This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
- 67-63-0 Isopropyl alcohol 100%

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
- 67-63-0 Isopropyl alcohol 90 - 100%

Pennsylvania Right To Know
- 67-63-0 Isopropyl alcohol 90 - 100%

New Jersey Right To Know
- 67-63-0 Isopropyl alcohol 90 - 100%

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:
<table>
<thead>
<tr>
<th>Inventory Name</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States TSCA Inventory</td>
<td>y (positive listing)</td>
<td>(On TSCA Inventory)</td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>y (positive listing)</td>
<td>(All components of this product are on the Canadian DSL.)</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Japan. ENCS - Existing and New Chemical Substances Inventory</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
</tbody>
</table>
SECTION 16. OTHER INFORMATION

**Further information**

**NFPA:**
- Flammability: 3
- Health: 2
- Instability: 0

**HMIS III:**
- HEALTH: 2
- FLAMMABILITY: 3
- PHYSICAL HAZARD: 0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

**Legacy SDS:** 140000001030, R0001444

**Material number:**
- 16087525, 16076497, 16070429, 16067144, 16062658, 16056234, 16056233, 16056232, 16056231, 16056230, 16056236, 16056235, 16056229, 16056228, 16061245, 16053485, 16052635, 16049720, 16030493, 16030184, 16020147, 16010158, 772812, 772811, 749963, 744289, 744288, 744287, 737212, 728214, 717444, 713300, 667236, 667235, 638919, 628350, 622971, 620243, 607424, 604761, 598538, 584582, 574318, 554273, 554170, 554086, 554045, 554336, 554300, 550689, 549773, 554335, 554291, 554272, 554257, 554206, 554169, 554149, 554085, 554371, 556671, 547315, 547297, 551361, 544760, 508619, 508618, 508414, 55018, 73136, 55939, 55835, 56756, 105079, 71262, 88592, 54882, 104163, 56760, 88703, 88700, 105097, 87779, 56758, 71396, 56752, 73132, 71401, 56759, 55942, 106250, 152309, 136796, 166706, 89678, 71489, 70529, 89675

**Key or legend to abbreviations and acronyms used in the safety data sheet**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
</tbody>
</table>

**MSDS Number:** 100000002859
<table>
<thead>
<tr>
<th>acronyms</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50%</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Compositon, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
</table>