SECTION 1. IDENTIFICATION

Product name : PURELL® Advanced Hand Rub

Manufacturer or supplier's details
Company name of supplier : GOJO Industries, Inc.
Address : One GOJO Plaza, Suite 500
           Akron, Ohio, 44311
Telephone : 1 (330) 255-6000
Emergency telephone number : CHEMTREC 1-800-424-9300
                             CHEMTREC +1-703-527-3887: Outside USA & CANADA

Recommended use of the chemical and restrictions on use
Recommended use : Hand Sanitizer
Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids : Category 3
Eye irritation : Category 2A

GHS label elements
Hazard pictograms:

- Flammable liquid and vapour
- Warning

Signal word:

- Warning

Hazard statements:

- H226 Flammable liquid and vapour.
- H319 Causes serious eye irritation.

Precautionary statements:

Prevention:

- 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.
- P280 Wear eye protection/ face protection.

Response:

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

- P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

- P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards:

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>64-17-5</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice:

In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled

If inhaled, remove to fresh air.
If symptoms persist, call a physician.

In case of skin contact
Wash with water and soap as a precaution.
Get medical attention if irritation develops and persists.

In case of eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Seek medical advice.

If swallowed
If swallowed, DO NOT induce vomiting.
Rinse mouth with water.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed
Causes serious eye irritation.

Protection of first-aiders
First Aid responders should pay attention to self-protection and use the recommended protective clothing

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media
High volume water jet

Specific hazards during firefighting
Do not use a solid water stream as it may scatter and spread fire.
Cool closed containers exposed to fire with water spray.
Flash back possible over considerable distance.
May form explosive mixtures in air.
Exposure to decomposition products may be a hazard to health.

Hazardous combustion products
Carbon oxides

Specific extinguishing methods
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened 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.

Special protective equipment
In the event of fire, wear self-contained breathing apparatus.
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.
- Keep people away from and upwind of spill/leak.
- Material can create slippery conditions.

Environmental precautions:
- Discharge into the environment must be avoided.
- Prevent further leakage or spillage if safe to do so.
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up:
- Non-sparking tools should be used.
- Soak up with inert absorbent material.
- Suppress (knock down) gases/vapours/mists with a water spray jet.
- Keep in suitable, closed containers for disposal.
- Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling:
- For personal protection see section 8.
- Keep away from heat.
- Use with local exhaust ventilation.
- Avoid contact with eyes.

Conditions for safe storage:
- Take measures to prevent the build up of electrostatic charge.
- Keep in properly labelled containers.
- Keep container tightly closed in a dry and well-ventilated place.
- Store in accordance with the particular national regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>64-17-5</td>
<td>TWA</td>
<td>1,000 ppm 1,880 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA EV</td>
<td>1,000 ppm 1,880 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>TWA</td>
<td>200 ppm</td>
<td>CA AB OEL</td>
</tr>
</tbody>
</table>
Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</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>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>Acetone</td>
<td>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.

**Hand protection**: No special protective equipment required.

**Eye protection**: Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection**: No special measures necessary provided product is used correctly.

**Protective measures**: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Ensure that eye flushing systems and safety showers are located close to the working place.

**Hygiene measures**: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**: liquid

**Colour**: clear, colourless, yellow

**Odour**: alcohol-like
Odour Threshold : No data available
pH : 6.5 - 8.5 (20 °C)
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : 24 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Upper explosion limit : No data available
Lower explosion limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Density : 0.8743 g/cm³
Solubility(ies)
  Water solubility : soluble
Partition coefficient: n-octanol/water : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : The substance or mixture is not classified self-reactive.
Viscosity
  Viscosity, kinematic : 3500 - 23000 mm²/s (20 °C)
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Vapours may form explosive mixture with air.
Conditions to avoid : Heat, flames and sparks.
Incompatible materials : Strong oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Eye contact
Skin contact

Acute toxicity
Not classified based on available information.

Components:

**Ethyl Alcohol:**
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): 124.7 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour

**Isopropyl Alcohol:**
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): 72.6 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour

Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Components:

**Ethyl Alcohol:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Isopropyl Alcohol:**
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

**Ethyl Alcohol:**
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Method: OECD Test Guideline 405

Isopropyl Alcohol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.

Components:

Ethyl Alcohol:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

Isopropyl Alcohol:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Germ cell mutagenicity
Not classified based on available information.

Components:

Ethyl Alcohol:
Genotoxicity in vitro: Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo: Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative

Isopropyl Alcohol:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Carcinogenicity
Not classified based on available information.

Components:
Isopropyl Alcohol:
Species: Rat
Application Route: inhalation (vapour)
Exposure time: 104 weeks
Method: OECD Test Guideline 451
Result: negative

Reproductive toxicity
Not classified based on available information.

Components:
Ethyl Alcohol:
Effects on fertility:
Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Isopropyl Alcohol:
Effects on fertility:
Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development:
Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure
Not classified based on available information.

Components:
Isopropyl Alcohol:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.

Repeated dose toxicity

Components:
Ethyl Alcohol:
Species: Rat
NOAEL: 2,400 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Isopropyl Alcohol:
Species: Rat
NOAEL: 5000 ppm
Application Route: inhalation (vapour)
Exposure time: 104 w
Method: OECD Test Guideline 413

Aspiration toxicity
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:

Ethyl Alcohol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 9.6 mg/l
Exposure time: 9 d

Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l
Exposure time: 0.25 h

Isopropyl Alcohol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h

Toxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h

Persistence and degradability
Components:

Ethyl Alcohol:
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 84 %  
Exposure time: 20 d

Isopropyl Alcohol: 
Biodegradability: Result: rapidly degradable

Bioaccumulative potential

Components:

Ethyl Alcohol: 
Partition coefficient: n-octanol/water: log Pow: -0.35

Isopropyl Alcohol: 
Partition coefficient: n-octanol/water: log Pow: 0.05

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
Contaminated packaging: Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR
UN/ID No.: UN 1987
Proper shipping name: Alcohols, n.o.s.  
(Ethanol, Propan-2-ol)
Class: 3
Packing group: III
Packing instruction (cargo aircraft): 366
Packing instruction (passenger aircraft): 355

IMDG-Code
UN number: UN 1987
Proper shipping name: ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)
Class: 3
Packing group: III
Labels: 3
EmS Code: F-E, S-D
Marine pollutant: no

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:
- TSCA: On TSCA Inventory
- AICS: On the inventory, or in compliance with the inventory
- DSL: On the inventory, or in compliance with the inventory
- ENCS: On the inventory, or in compliance with the inventory
- ISHL: On the inventory, or in compliance with the inventory
- KECI: On the inventory, or in compliance with the inventory
- PICCS: On the inventory, or in compliance with the inventory
- IECSC: On the inventory, or in compliance with the inventory
- NZIoC: On the inventory, or in compliance with the inventory

Canadian lists
No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
- AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% re-
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>ENCS</td>
<td>Existing and New Chemical Substances</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk</td>
</tr>
<tr>
<td>IC50</td>
<td>Half maximal inhibitory concentration</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>ICH</td>
<td>Global Harmonized System</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System for the Safe Use of Chemicals and Physical Agents</td>
</tr>
<tr>
<td>GLP</td>
<td>Good Laboratory Practice</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>ICI</td>
<td>Industrial Safety and Health Law (Japan)</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organisation for Standardization</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea Existing Chemicals Inventory</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration to 50% of a test population</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose to 50% of a test population (Median Lethal Dose)</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships</td>
</tr>
<tr>
<td>n.o.s.</td>
<td>Not Otherwise Specified</td>
</tr>
<tr>
<td>Nch</td>
<td>Chilean Norm</td>
</tr>
<tr>
<td>NO(A)EC</td>
<td>No Observed (Adverse) Effect Concentration</td>
</tr>
<tr>
<td>NO(A)EL</td>
<td>No Observed (Adverse) Effect Level</td>
</tr>
<tr>
<td>NOELR</td>
<td>No Observeable Effect Loading Rate</td>
</tr>
<tr>
<td>NOM</td>
<td>Official Mexican Norm</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>OPPTS</td>
<td>Office of Chemical Safety and Pollution Prevention</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic substance</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Chemicals and Chemical Substances</td>
</tr>
<tr>
<td>(Q)SAR</td>
<td>(Quantitative) Structure Activity Relationship</td>
</tr>
<tr>
<td>SADT</td>
<td>Self-Accelerating Decomposition Temperature</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
<tr>
<td>TCSI</td>
<td>Taiwan Chemical Substance Inventory</td>
</tr>
<tr>
<td>TDG</td>
<td>Transportation of Dangerous Goods</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substances Control Act (United States)</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNRTDG</td>
<td>United Nations Recommendations on the Transport of Dangerous Goods</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and Very Bioaccumulative</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
</table>

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.