1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name**  Protocol Decolorizer


**Synonyms**  Decolorizing solution - Acetone/Isopropanol (1:4)

**Recommended Use**  Laboratory chemicals

**Company**  Richard Allan Scientific

A Subsidiary of Thermo Fisher Scientific

4481 Campus Drive

Kalamazoo, MI 49008

Tel: (800) 522-7270

**Emergency Telephone Number**

Chemtrec US: (800) 424-9300

Chemtrec EU: (202) 483-7616

2. HAZARDS IDENTIFICATION

**WARNING!**

Emergency Overview

Flammable liquid and vapor. Irritating to eyes and skin. May cause irritation of respiratory tract. May cause central nervous system effects. Aspiration hazard if swallowed - can enter lungs and cause damage. Repeated exposure may cause skin dryness or cracking.

**Appearance**  Clear, Colorless  **Physical State**  Liquid  **odor**  pungent

**Target Organs**  Eyes, Skin, Central nervous system (CNS), Liver, Kidney

**Potential Health Effects**

**Acute Effects**

**Principle Routes of Exposure**

- **Eyes**  Irritating to eyes.
- **Skin**  Irritating to skin. May be harmful in contact with skin. Repeated exposure may cause skin dryness or cracking.
- **Inhalation**  Inhalation may cause central nervous system effects. May cause irritation of respiratory tract. May be harmful if inhaled.
- **Ingestion**  Aspiration hazard. May be harmful if swallowed. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic Effects**  Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects. May cause adverse kidney effects.
See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions**
Central nervous system disorders. Preexisting eye disorders. Skin disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>20</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>80</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.

**Ingestion**
Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Notes to Physician**
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point**
12.22°C / 54°F

**Method**
No information available.

**Autoignition Temperature**
No information available.

**Explosion Limits**
Upper 12.0 vol %
Lower 2.5 vol %

**Suitable Extinguishing Media**
CO₂, dry chemical, dry sand, alcohol-resistant foam. Use water spray to cool unopened containers.

**Unsuitable Extinguishing Media**
Water may be ineffective

**Hazardous Combustion Products**
No information available.

**Sensitivity to mechanical impact**
No information available.

**Sensitivity to static discharge**
No information available.

**Specific Hazards Arising from the Chemical**
Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Use only under a chemical fume hood. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>TWA: 500 ppm</td>
<td>(Vacated) TWA: 750 ppm</td>
<td>IDLH: 2500 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 750 ppm</td>
<td>(Vacated) TWA: 1800 mg/m³</td>
<td>TWA: 250 ppm</td>
</tr>
<tr>
<td></td>
<td>(Vacated) STEL: 1000 ppm</td>
<td>TWA: 590 mg/m³</td>
<td>STEL: 1000 ppm</td>
</tr>
<tr>
<td></td>
<td>(Vacated) STEL: 2400 mg/m³</td>
<td>STEL: 2400 mg/m³</td>
<td>TWA: 2400 mg/m³</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>TWA: 200 ppm</td>
<td>(Vacated) TWA: 400 ppm</td>
<td>STEL: 1260 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 400 ppm</td>
<td>(Vacated) TWA: 980 mg/m³</td>
<td>TWA: 4000 ppm</td>
</tr>
<tr>
<td></td>
<td>(Vacated) STEL: 980 mg/m³</td>
<td>STEL: 3000 mg/m³</td>
<td>STEL: 500 ppm</td>
</tr>
<tr>
<td></td>
<td>(Vacated) STEL: 1225 mg/m³</td>
<td>STEL: 1225 mg/m³</td>
<td>STEL: 1225 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>TWA: 1190 mg/m³</td>
<td>TWA: 1000 ppm</td>
<td>TWA: 500 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 500 ppm</td>
<td>TWA: 2400 mg/m³</td>
<td>STEL: 750 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 1000 ppm</td>
<td>STEL: 1260 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL: 2380 mg/m³</td>
<td>STEL: 3000 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Quebec</td>
<td>Mexico OEL (TWA)</td>
<td>Ontario TWA EV</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>TWA: 400 ppm</td>
<td>TWA: 400 ppm</td>
<td>TWA: 200 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 985 mg/m³</td>
<td>TWA: 980 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm</td>
<td>STEL: 1225 mg/m³</td>
<td>STEL: 400 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 1230 mg/m³</td>
<td>STEL: 500 ppm</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

- **Eye/face Protection**: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
- **Skin and body protection**: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Physical State**: Liquid
- **Appearance**: Clear, Colorless
- **Odor**: Pungent
- **Odor Threshold**: No information available.
- **pH**: No information available.
- **Vapor Pressure**: 55 mmHg
- **Vapor Density**: 2.09 (Air = 1.0)
- **Viscosity**: No information available.
- **Boiling Point/Range**: 56.1 – 82°C / 133 – 179.6°F
- **Melting Point/Range**: No information available.
- **Decomposition temperature**: No information available.
- **Flash Point**: 12.22°C / 54°F
- **Evaporation Rate**: 6.8 (Butyl Acetate = 1.0)
- **Specific Gravity**: 0.785
- **Solubility**: Soluble in water
- **Log Pow**: No data available

### 10. STABILITY AND REACTIVITY

- **Stability**: Stable under normal conditions.
- **Conditions to Avoid**: Incompatible products. Heat, flames and sparks.
- **Incompatible Materials**: Strong oxidizing agents, Strong acids, Metals
- **Hazardous Decomposition Products**: Carbon monoxide (CO), Carbon dioxide (CO₂), peroxides, Thermal decomposition can lead to release of irritating gases and vapors
- **Hazardous Polymerization**: Hazardous polymerization does not occur.
- **Hazardous Reactions**: None under normal processing.

### 11. TOXICOLOGICAL INFORMATION

- **Acute Toxicity**
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5800 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>4396 mg/kg (Rat)</td>
<td>12800 mg/kg (Rat)</td>
<td>72.6 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td></td>
<td>12870 mg/kg (Rabbit)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation
Irritating to eyes and skin

Toxicologically Synergistic Products
No information available.

Chronic Toxicity

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>Not listed</td>
<td>Group 1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)
IARC 1 - Carcinogenic to Humans
IARC 2A - Probably Carcinogenic to Humans
IARC 2B - Possibly Carcinogenic to Humans

Sensitization
No information available.

Mutagenic Effects
No information available.

Reproductive Effects
Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects
Developmental effects have occurred in experimental animals.

Teratogenicity
Teratogenic effects have occurred in experimental animals.

Other Adverse Effects
See actual entry in RTECS for complete information.

Endocrine Disruptor Information
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>Not listed</td>
<td>Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h</td>
<td>EC50 = 14500 mg/L/15 min</td>
<td>EC50 = 39 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>EC50 96 h &gt;1000 mg/L</td>
<td>LC50 96 h 9640 mg/L</td>
<td>E50 = 35390 mg/L EC50 Photobacterium phosphoreum 5 min</td>
<td>EC50 48 h 13299 mg/L</td>
</tr>
</tbody>
</table>
Persistence and Degradability  
No information available

Bioaccumulation/ Accumulation  
No information available

Mobility  

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>-0.24</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>0.05</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**  
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone - 67-64-1</td>
<td>U002</td>
<td>-</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
<tr>
<td>Proper technical name</td>
<td>(ISOPROPANOL, ACETONE)</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

**TDG**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

**IMDG/IMO**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-662-2</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-29367</td>
<td>X</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-661-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-29363</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>80</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable
CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product contains the following DHS chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>2000 lb STQ</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade
Serious risk, Grade 3

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
B2 Flammable liquid
D2B Toxic materials
16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date
18-Aug-2010

Print Date
18-Aug-2010

Revision Summary
“***”, and red text indicates revision

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of MSDS