Section 1 – Product and Company Identification

Product identifier
Product Name: Industrial Spray Adhesive
Product Code: DP 77

Intended use of the product
Adhesive

Restrictions on Use
For industrial use only.

Supplier's Details
Manufactured For: Design Polymerics
Address: 3301 W. Segerstrom Ave., Santa Ana, CA 92704
Information Phone: (714) 432-0600
Website: www.designpoly.com

Emergency telephone number
ChemTel LLC: (800) 255-3924 (24 Hrs)

Section 2 - Hazard Identification

Hazard Classifications

Physical Hazards
Flammable aerosol Category 1

Health Hazards
Serious Eye Damage/Eye Irritation Category 2A
Skin sensitizer Category 1
Specific Target Organ Toxicity - Single Exposure Category 3

Target Organs
1. Narcotic effect.

Environmental Hazards
Acute hazards to the aquatic environment Category 3
Chronic hazards to the aquatic environment Category 3

Label Elements

Hazard Symbol(s):

![Flammable Symbol]

Signal Word: Danger
Hazard Statement: Extremely flammable aerosol.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep 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 eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing 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 to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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

Section 3 – Composition/Information on Ingredients

Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>67-64-1</td>
<td>20 - &lt;50%</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aliphatic</td>
<td>64742-89-8</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Acetic acid, methyl ester</td>
<td>79-20-9</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Heptane</td>
<td>142-82-5</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Heptane, branched, cyclic and linear</td>
<td>426260-76-6</td>
<td>2.5 - &lt;5%</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated light</td>
<td>64742-49-0</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Maleic Anhydride Modified Liquid Polyisoprene</td>
<td>841251-34-1</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Benzene, 1-chloro-4-(trifluoromethyl)-</td>
<td>98-56-6</td>
<td>1 - &lt;5%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
Section 4 – First Aid Measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

Symptoms: No data available.

Hazards: No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Treatment: No data available.

Section 5 – Fire-Fighting Measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

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

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special firefighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures
Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and Materials for Containment and Cleaning Up
Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
Notification Procedures
Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions
Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

Section 7 – Handling and Storage

Precautions for Safe Handling
Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid contact with eyes, skin, and clothing.

Conditions for Safe Storage, Including Any Incompatibilities
Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 2.

Section 8 – Exposure Controls/Personal Protection

Control Parameters

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>STEL</td>
<td>1,000 ppm 2,400 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>1,000 ppm 2,400 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>250 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (03 2015)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>750 ppm 1,800 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (03 2015)</td>
</tr>
<tr>
<td></td>
<td>REL</td>
<td>250 ppm 590 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
</tr>
<tr>
<td>Propane</td>
<td>REL</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
</tr>
<tr>
<td>Butane</td>
<td>REL</td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
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<tr>
<td></td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (03 2018)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aliph.</td>
<td>REL</td>
<td>100 ppm 400 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>100 ppm 400 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>100 ppm 400 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)</td>
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<tr>
<td>Acetic acid, methyl ester</td>
<td>REL</td>
<td>200 ppm 610 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
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<td></td>
<td>STEL</td>
<td>250 ppm 760 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (02 2006)</td>
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<td></td>
<td>PEL</td>
<td>200 ppm 610 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
</tr>
<tr>
<td>Substance</td>
<td>STEL</td>
<td>TWA</td>
<td>REL</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated light</td>
<td>250 ppm</td>
<td>200 ppm</td>
<td>100 ppm</td>
</tr>
<tr>
<td>TWA 400 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL 500 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
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<td></td>
</tr>
<tr>
<td>REL 200 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2005)</td>
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</tr>
<tr>
<td>PEL 200 ppm</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
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<tr>
<td>STEL 500 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA 400 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (02 2012)</td>
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<td></td>
</tr>
<tr>
<td>STEL 500 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (02 2012)</td>
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<td></td>
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<tr>
<td>Methanol</td>
<td>250 ppm</td>
<td>200 ppm</td>
<td>200 ppm</td>
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<tr>
<td>TWA 20 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
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<td></td>
</tr>
<tr>
<td>STEL 250 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL 200 ppm</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL 200 ppm</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA 200 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL 250 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL 200 ppm</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA 200 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hexane</td>
<td>50 ppm</td>
<td>50 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>PEL 500 ppm</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL 50 ppm</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA 260 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>100 ppm</td>
<td>300 ppm</td>
<td>300 ppm</td>
</tr>
<tr>
<td>TWA 10 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL 100 ppm</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL 100 ppm</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceiling 300 ppm</td>
<td>US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA 20 ppm</td>
<td>US. ACGIH Threshold Limit Values, as amended (2008)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Biological Limit Values

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone (acetone: Sampling time: End of shift.)</td>
<td>25 mg/l (Urine)</td>
<td>ACGIH BEL (03 2015)</td>
</tr>
</tbody>
</table>
Exposure Controls

Appropriate Engineering Controls: No data available.

Individual protection measures, such as personal protective equipment

General Information:
Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye and Face Protection:
Wear safety glasses with side shields (or goggles).

Skin Protection
Hand Protection: No data available.

Other:
Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:
In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:
Observe good industrial hygiene practices. Avoid contact with eyes. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

Section 9 – Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Spray Aerosol</td>
</tr>
<tr>
<td>Color</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
DP 77 Industrial Spray Adhesive

Revision Date: September 12, 2022

Flash Point : Estimated -104.44 °C
Evaporation Rate : No data available.
Flammability (solid, gas) : No data available.

Upper/lower limit on flammability or explosive limits
- Flammability Limit – upper (%) : No data available.
- Flammability Limit – lower (%) : No data available.
- Explosive Limit – upper (%) : No data available.
- Explosive Limit – lower (%) : No data available.

Vapor Pressure : 2,895 - 4,274 hPa (20 °C)
Vapor Density : No data available.
Density : No data available.
Relative Density : No data available.
Solubility (ies)
- Solubility in Water : No data available.
- Solubility (other) : No data available.
Partition Coefficient: N-Octanol/Water : No data available
Auto-ignition Temperature : No data available.
Decomposition Temperature : No data available.
Viscosity : No data available.

Section 10 – Stability and Reactivity

Reactivity:
No data available.

Chemical Stability:
Material is stable under normal conditions.

Possibility of Hazardous Reactions:
No data available.

Conditions to Avoid:
Avoid heat or contamination.

Incompatible Materials:
No data available.

Hazardous Decomposition Products:
No data available.

Section 11 – Toxicological Information

Information on likely routes of exposure
Inhalation: No data available.
Skin Contact: No data available.
Eye contact: No data available.
Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics
Inhalation: No data available.
Skin Contact: No data available.
Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

- 2-Propanone LD 50 (Rat): 5,800 mg/kg
- Solvent naphtha (petroleum), light aliph. LD 50 (Rat): > 5,000 mg/kg
- Acetic acid, methyl ester LD 50 (Rat): 6,482 mg/kg
- Heptane LD 50 (Rat): > 5,000 mg/kg
- Heptane, branched, cyclic and linear LD 50: > 2,000 mg/kg
- Naphtha (petroleum), hydrotreated light LD 50 (Rat): > 5,000 mg/kg
- Maleic Anhydride Modified Liquid Polyisoprene LD 50: > 5,000 mg/kg
- Benzene, 1-chloro-4- (trifluoromethyl)- LD 50 (Rat): > 2,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

- 2-Propanone LD 50 (Rabbit): > 7,426 mg/kg
- Solvent naphtha (petroleum), light aliph. LD 50 (Rabbit): > 3,000 mg/kg
- Acetic acid, methyl ester LD 50 (Rat): > 2,000 mg/kg
- Heptane LD 50 (Rabbit): > 2,000 mg/kg
- Heptane, branched, cyclic and linear LD 50: > 2,000 mg/kg
- Naphtha (petroleum), hydrotreated light LD 50 (Rabbit): > 3,750 mg/kg
- Maleic Anhydride Modified Liquid Polyisoprene LD 50: > 5,000 mg/kg
- Benzene, 1-chloro-4- (trifluoromethyl)- LD 50: 3,300 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

- 2-Propanone LC 50 (Rat): 50.1 mg/l
  LC 50: > 5 mg/l
- Propane LC 50: > 100 mg/l
  LC 50: > 100 mg/l
- Butane LC 50: > 100 mg/l
  LC 50: > 100 mg/l
- Solvent naphtha (petroleum), light aliph. LC 50: > 100 mg/l
  LC 50: > 100 mg/l
- Acetic acid, methyl ester LC 50: > 49.2 mg/l
LC 50: > 5 mg/l
Heptane
LC 50 (Rat): > 29.29 mg/l
LC 50: > 100 mg/l
Heptane, branched, cyclic and linear
LC 50: > 20 mg/l
LC 50: > 5 mg/l
Naphtha (petroleum), hydrotreated light
LC 50: > 100 mg/l
Maleic Anhydride Modified Liquid Polyisoprene
LC 50: > 100 mg/l
LC 50: > 100 mg/l
Benzene, 1-chloro-4- (trifluoromethyl)-
LC 50: 32.03 mg/l
LC 50: > 5 mg/l

Repeated dose toxicity

Product: No available data.

Specified substance(s):

2-Propanone
NOAEL (Rat(Male), Oral, 13 Weeks): 10,000 ppm(m) Oral
Experimental result, Key study

Propane
NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m)
Inhalation Experimental result, Key study
LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m)
Inhalation Experimental result, Key study

Butane
LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m)
Inhalation Experimental result, Key study
NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m)
Inhalation Experimental result, Key study

Solvent naphtha (petroleum), light aliph.
NOAEL (Mouse, Rat(Female, Male), Inhalation, 107 - 113 Weeks): 1,402 mg/m3 Inhalation
Experimental result, Key study
NOAEL (Rat(Female, Male), Dermal, > 375 mg/kg Dermal Experimental result, Key study
NOAEL (Rat(Female, Male), Dermal, 28 d): > 375 mg/kg Dermal Experimental result, Supporting study

Acetic acid, methyl ester
NOAEL (Rat(Female, Male), Inhalation, 28 d): 350 ppm(m)
Inhalation Experimental result, Key study
LOAEL (Rat(Female, Male), Inhalation, 28 d): 2,000 ppm(m)
Inhalation Experimental result, Key study

Heptane
NOAEL (Rat(Male), Inhalation): 12,470 mg/m3 Inhalation Experimental result, Key study

Naphtha (petroleum), hydrotreated light
NOAEL (Rat(Female, Male), Inhalation): 10,000 mg/m3 Inhalation Experimental result, Key study
LOAEL (Rat(Female, Male), Oral, 13 Weeks): 1,250 mg/kg Oral Read- across based on grouping of substances (category approach), Key study
NOAEL (Rat(Female, Male), Dermal, 28 d): > 375 mg/kg Dermal Experimental result, Supporting study

Benzene, 1-chloro-4- (trifluoromethyl)-
NOAEL (Rat(Male), Oral, 90 - 92 d): 40 mg/kg Oral Experimental result, Key study
NOAEL (Rat(Male), Inhalation): 5.5 mg/m3 Inhalation Experimental result, Key study

Skin Corrosion

Product: No data available.

Specified substance(s):

2-Propanone
in vivo (Rabbit): Not irritant Experimental result, Supporting study
Acetic acid, methyl ester in vivo (Rabbit): Not irritant Experimental result, Key study
Heptane in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
Naphtha (petroleum), hydrotreated light Assessment Non-Irritating
Benzene, 1-chloro-4- (trifluoromethyl)- in vivo (Rabbit): Not irritant (unspecified classification) Experimental result, Key study

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s): 2-Propanone Irritating.
Solvent naphtha (petroleum), light aliph. Rabbit: Not irritating
Acetic acid, methyl ester Rabbit: Irritating
Heptane Rabbit, 24 - 72 hrs: Not irritating
Naphtha (petroleum), hydrotreated light Rabbit, 24 - 72 hrs: Not irritating

Respiratory or Skin Sensitization
Product: No data available.

Specified substance(s): 2-Propanone Skin sensitization: in vivo (Guinea pig): Non sensitizing
Solvent naphtha (petroleum), light aliph. Skin sensitization: in vivo (Guinea pig): Non sensitizing
Heptane Skin sensitization: in vivo (Guinea pig): Non sensitizing
Naphtha (petroleum), hydrotreated light Skin sensitization: in vivo (Guinea pig): Non sensitizing

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: No carcinogenic components identified
US. National Toxicology Program (NTP) Report on Carcinogens: No carcinogenic components identified

Germ Cell Mutagenicity
In vitro Product: No data available.
In vivo Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specified substance(s):
- 2-Propanone: Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.
- Heptane: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Target Organs
Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard
Product: No data available.

Specified substance(s):
- Solvent naphtha (petroleum), light aliph.: May be fatal if swallowed and enters airways.
- Heptane: May be fatal if swallowed and enters airways.
- Heptane, branched, cyclic and linear: May be fatal if swallowed and enters airways.
- Naphtha (petroleum), hydrotreated light: May be fatal if swallowed and enters airways.

Other effects: No data available.

Section 12 – Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:
Fish
Product: No data available.

Specified Substance(s):
- 2-Propanone: LC 50 (Oncorhynchus mykiss, 96 h): 5,540 mg/l Experimental result, Key study
- Propane: LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
- Butane: LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
- Acetic acid, methyl ester: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 295 - 348 mg/l Mortality
  LC 50 (Danio rerio, 48 h): 250 - 350 mg/l Experimental result, Key study
- Heptane: LC 50 (Mozambique tilapia (Tilapia mossambica), 96 h): 375 mg/l Mortality
- Naphtha (petroleum), hydrotreated light: LC 50 (96 h): 8.41 mg/l Experimental result, Key study
- Benzene, 1-chloro-4- (trifluoromethyl)-: NOAEL (96 h): 2.2 mg/l Experimental result, Key study
  LC 50 (96 h): 3 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.
### Specified substance(s):

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC 50 (Daphnia pulex, 48 h): 8,800 mg/l</th>
<th>EC 50 (Daphnia magna, 48 h):</th>
<th>LOAEL (Daphnia magna, 48 h):</th>
</tr>
</thead>
</table>
| 2-Propanone| 32 mg/l Experimental result, Supporting study | 2,212 mg/l Experimental result, Key study | |}
| Butane    | 69.43 mg/l QSAR QSAR, Key study | | |
| Solvent naphtha (petroleum), light aliph. | 32 mg/l Experimental result, Supporting study | | |
| Acetic acid, methyl ester | 1,026.7 mg/l Experimental result, Key study | | |
| Heptane | 1.5 mg/l Experimental result, Key study | | |
| Naphtha (petroleum), hydrotreated light | 4.5 mg/l Experimental result, Key study | | |
| Benzene, 1-chloro-4- (trifluoromethyl)- | 9.15 mg/l Experimental result, Key study | | |

### Chronic hazards to the aquatic environment:

#### Fish

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOAEL (Oncorhynchus mykiss): 1.284 mg/l</th>
<th>NOAEL (Daphnia magna): 2.6 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptane</td>
<td></td>
<td>Key study</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated light</td>
<td></td>
<td>Other, Key study</td>
</tr>
</tbody>
</table>

#### Aquatic Invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>LOAEL (Daphnia magna): 2,212 mg/l</th>
<th>NOAEL (Daphnia magna): 2,212 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td></td>
<td>Experimental result, Key study</td>
</tr>
</tbody>
</table>

### Toxicity to Aquatic Plants

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC : &lt; 1 mg/l estimation</th>
</tr>
</thead>
</table>

### Persistence and Degradability

#### Biodegradation

<table>
<thead>
<tr>
<th>Substance</th>
<th>90.9 % (28 d) Detected in water. Experimental result, Key study</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td></td>
</tr>
<tr>
<td>Propane</td>
<td>100 % (385.5 h) Detected in water. Experimental result, Key study</td>
</tr>
</tbody>
</table>

---

**Product Code:** DP 77
50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study

Butane 100 % (385.5 h) Detected in water. Experimental result, Key study

Solvent naphtha (petroleum), light aliph. 90.35 % (28 d) Detected in water. Experimental result, Supporting study

Acetic acid, methyl ester 70 % Detected in water. Experimental result, Key study

Heptane 70 % Detected in water. Experimental result, Key study

Naphtha (petroleum), hydrotreated light 90.35 % (28 d) Detected in water. Experimental result, Supporting study

Benzene, 1-chloro-4-(trifluoromethyl)- 3 % (28 d) Detected in water. Experimental result, Key study

**BOD/COD Ratio**

Product: No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

Product: No data available.

**Specified substance(s):**

- 2-Propanone: Haddock, adult, Bioconcentration Factor (BCF): 0.69 Aquatic sediment. Experimental result, Not specified

- Solvent naphtha (petroleum), light aliph.: Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study

- Heptane: Bioconcentration Factor (BCF): 552 Aquatic sediment Estimated by calculation, Key study

- Naphtha (petroleum), hydrotreated light: Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study

- Benzene, 1-chloro-4-(trifluoromethyl)-: Bioconcentration Factor (BCF): 9 Aquatic sediment Estimated by calculation, Key study

**Partition Coefficient n-octanol / water (log Kow)**

Product: No data available.

**Specified substance(s):**

- Naphtha (petroleum), hydrotreated light: Log Kow: > 2.4 - < 5.7 23 °C Yes Experimental result, Key study

**Mobility in soil:**

No data available.

**Known or predicted distribution to environmental compartments**

- 2-Propanone: No data available.
- Propane: No data available.
- Butane: No data available.
- Solvent naphtha (petroleum), light aliph.: No data available.
- Acetic acid, methyl ester: No data available.
- Heptane: No data available.
- Heptane, branched, cyclic and linear: No data available.
- Naphtha (petroleum), hydrotreated light: No data available.
- Maleic Anhydride Modified Liquid Polyisoprene: No data available.
- Benzene, 1-chloro-4-(trifluoromethyl)-: No data available.
Other adverse effects:  Harmful to aquatic life with long lasting effects.

Section 13 – Disposal Considerations

Disposal Instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

Section 14 – Transport Information

DOT
UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
  Class: 2.1
  Label(s): –
  Packing Group: II
  Marine Pollutant: No

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.

IMDG
UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
  Class: 2
  Label(s): –
  EmS No.: –

Packing Group: –

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.

IATA
UN Number: UN 1950
Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
  Class: 2.1
  Label(s): –

Packing Group: –

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.

Section 15 – Regulatory Information

US Federal Regulations
Restrictions on use: Not known.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>OSHA hazard(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>Flammability</td>
</tr>
<tr>
<td></td>
<td>Cancer Aspiration Eye</td>
</tr>
<tr>
<td></td>
<td>Blood</td>
</tr>
<tr>
<td></td>
<td>Skin</td>
</tr>
<tr>
<td></td>
<td>respiratory tract irritation</td>
</tr>
<tr>
<td></td>
<td>Central nervous system</td>
</tr>
</tbody>
</table>

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Propane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Butane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Methane, 1,1'-oxybis-</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Acetic acid, methyl ester</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Heptane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Methanol</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Hexane</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>lbs. 1000</td>
</tr>
<tr>
<td>Benzene, methyl-</td>
<td>lbs. 1000</td>
</tr>
<tr>
<td>Benzene</td>
<td>lbs. 10</td>
</tr>
<tr>
<td>Benzene, (1-methylethyl)-</td>
<td>lbs. 5000</td>
</tr>
<tr>
<td>Benzene, ethyl-</td>
<td>lbs. 1000</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, 1,2-diethyl ester</td>
<td>lbs. 1000</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Fire Hazard
- Immediate (Acute) Health Hazards
- Flammable (gases, aerosols, liquids, or solids)
- Serious eye damage or eye irritation
- Respiratory or Skin Sensitization
- Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely Hazardous Substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable Quantity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic acid, methyl ester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hexane</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 304 Emergency Release Notification
- None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical
- None present or none present in regulated quantities.
SARA 313 (TRI Reporting)  
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Clean Water Act Section 311  
Hazardous Substances (40 CFR 117.3)  
US State Regulations

**US. California Proposition 65**  
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

- Benzene, 1-chloro-4-(trifluoromethyl)-: Carcinogenic.  
  Developmental toxin. 03 2012  
- Methanol: Developmental toxin. 03 2008  
- Hexane: Male reproductive toxin. 12 2017  
- Benzene, methyl-: Developmental toxin. 03 2008  
- Benzene: Developmental toxin. 03 2008  
- Benzene: Carcinogenic. 05 2011  
- Benzene: Male reproductive toxin. 03 2008  
- Benzene, (1-methylethyl)-: Carcinogenic. 05 2011  
- Benzene, ethyl-: Carcinogenic. 05 2011

**US. New Jersey Worker and Community Right-to-Know Act**  
**Chemical Identity**  
- 2-Propanone  
- Propane  
- Butane  
- Solvent naphtha (petroleum), light aliph. Methane, 1,1'-oxybis-  
- Acetic acid, methyl ester  
- Naphtha (petroleum), hydrotreated light  
- Heptane  
- Benzene, 1-chloro-4-(trifluoromethyl)-

**US. Massachusetts RTK - Substance List**  
**Chemical Identity**  
- Benzene  

**US. Pennsylvania RTK - Hazardous Substances**  
**Chemical Identity**  
- 2-Propanone  
- Propane  
- Butane  
- Solvent naphtha (petroleum), light aliph. Methane, 1,1'-oxybis-  
- Acetic acid, methyl ester  
- Naphtha (petroleum), hydrotreated light  
- Heptane

**US. Rhode Island RTK**  
No ingredient regulated by RI Right-to-Know Law present.

**International regulations**

- Montreal protocol  
  - 2-Propanone  
  - Acetic acid, methyl ester

- Stockholm convention
2-Propanone
Acetic acid, methyl ester

Rotterdam convention
2-Propanone
Acetic acid, methyl ester

Kyoto protocol

Inventory Status:
- Australia AICS: Not in compliance with the inventory.
- Canada DSL Inventory List: On or in compliance with the inventory.
- Canada NDSL Inventory: Not in compliance with the inventory.
- Ontario Inventory: Not in compliance with the inventory.
- China Inv. Existing Chemical Substances: On or in compliance with the inventory.
- Japan (ENCS) List: Not in compliance with the inventory.
- Japan ISHL Listing: Not in compliance with the inventory.
- Japan Pharmacopoeia Listing: Not in compliance with the inventory.
- Korea Existing Chemicals Inv. (KECI): Not in compliance with the inventory.
- Mexico INSQ: Not in compliance with the inventory.
- New Zealand Inventory of Chemicals: Not in compliance with the inventory.
- Philippines PICCS: Not in compliance with the inventory.
- Taiwan Chemical Substance Inventory: Not in compliance with the inventory.
- US TSCA Inventory: On or in compliance with the inventory.
- EINECS, ELINCS or NLP: Not in compliance with the inventory.

Section 16 – Other Information

Date of Preparation or Latest Revision: September 12, 2022. Supersedes all previous revisions.
Other Information: No data available.

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