



TURI SURFACE CLEANING LABORATORY CLEANING CHEMICAL QUESTIONNAIRE

See letter for submission instructions.

Material Safety Data Sheet (MSDS)
MUST Be Attached
(and Technical Data Sheet, if available)

03

1. Product/Trade Name (Please use a separate questionnaire for each cleaning chemical you want listed in the Directory)

d-Limonene

Generic Chemical Family: Terpene

Meets Specified Standard(s): ASTM: _____ Mil Spec: _____ FDA: GRAS Other: _____

Primary Cleaner Classification (Check only one):

- | | | | |
|---|---|---|---------------------------------------|
| ☐ Acidic Aqueous | ☐ Semi-Aqueous | ☐ Powder detergent | ☐ Extracting |
| ☐ Neutral Aqueous | ☒ Terpene | ☐ Enzymatic/ | ☐ HCFC |
| ☐ Alkaline Aqueous | ☐ Petroleum distillate | ☐ Microbial | ☐ Alcohol |
| ☐ Caustic | ☐ Organic | ☐ Blasting | ☐ Other: _____ |

2. Chemical Constituents (Check all that apply & specify) Example ☒ Builder: Sodium Hydroxide 50% (as Concentrate)

Cleaner Containing: At Least Some Water (_____ %) OR No/Minimal Water

- | | | |
|--|--|---|
| ☐ Builder: _____ | ☐ Water conditioner/Sequestering/ | ☐ Supercritical fluid: _____ |
| ☐ Surfactant: _____ | Chelating agent: _____ | |
| ☐ Emulsifier: _____ | ☐ Corrosion inhibitor/Rust | ☐ Blasting medium: _____ |
| ☐ Saponifier: _____ | prohibitor: _____ | |
| ☐ Other: _____ | ☐ Anti-microbial: _____ | ☐ Other: _____ |
| ☐ Rinse aid/Silicate: _____ | | |

3. Industrial Applications (Number all that apply, Most Used = 1)

- | | | | |
|--|---|--|---|
| ☒ Aerospace/Military | ☒ Metal Finishing | ☐ PCBs | ☒ Semiconductors |
| ☒ Cleanrooms | ☐ Metal Fabrication | ☐ Plastics | ☐ General Cleaning (floors, etc.) |
| ☒ Basic Electronics | ☐ Optics | ☐ Precision Instruments | ☒ Maint./Repair (engines, etc.) |
| ☐ Medical | ☒ Painting | ☒ Printing | ☐ Other: _____ |

4. Contaminant Removal (Check all that apply & specify, if possible)

- | | | | | |
|---|---|--|--|---|
| ☒ Adhesives | ☐ Coatings | ☒ Greases | ☒ Mold releases/ | ☐ Rust/Scale |
| ☒ Buffing/polishing | ☒ Cutting/tapping | ☒ Inks | Silicones | ☒ Waxes |
| compounds | fluids | ☒ Lubricating/ | ☒ Paints | ☒ Oil |
| ☐ Carbon deposits | ☒ Fluxes | lapping oils | ☒ Resins/Rosins | ☐ Other: _____ |

5. Substrate Compatibility (Check all that apply)

- | | | | | |
|--|--|--|---|--|
| ☒ Aluminum | ☒ Carbon steel | ☒ Glass/quartz | ☐ Rubber | ☒ Nickel |
| ☒ Alloys (Specify):
<u>All we have tested</u> | ☒ Ceramics | ☒ Gold | ☒ Stainless steel | ☒ Tin |
| ☒ Brass | ☒ Copper | ☐ Plastic (Specify): | ☒ Steel | ☐ Other: _____ |
| | ☒ Galvanized steel | | ☒ Sterling/silver | |

6. Equipment Compatibility (Check all that apply & specify, if applicable)

- | | | | |
|--|--|--|-----------|
| ☒ Cold Solvent | ☒ Mechanical Agitation | ☒ Low Pressure Spray | psi-range |
| ☐ Vapor Degreasing | ☒ Ultrasonics | ☐ High Pressure Spray | psi-range |
| ☒ Manual Wipe | ☐ Media Blasting | ☐ Other: _____ | |
| ☒ Immersion/Soak | ☐ Supercritical Extract | | |

7. Recommended Concentrations: 100% Percent Volume (range) _____

Recommended Temperatures: _____ Deg. F (range) -110 - 90

8. Important Physical and Chemical Properties:

Maximum theoretical VOC content: 95%

GWP: 0

Surface Tension: 6.8 dynes/cm pH NA Density: 0.84

ODP: 0

Kb value: 67 HMIS: 1 2 0 Other: _____

9. Cost per pound/gallon: _____ Smallest-unit price: _____ Large-volume price: _____ US\$

10. Additional pertinent information not found elsewhere on this form or MSDS: