SAFETY DATA SHEET
Revision: 1.1 Date: 10.04.2015


1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product Name: M-Line Rosin Solvent
Chemical Name: Mixture
CAS No.: Mixture
EINECS No.: Mixture
REACH Registration No.: None assigned.

1.2 Recommended use of the chemical and restrictions on use
Identified Use(s): PC38 Welding and soldering products (with flux coatings or flux cores.), flux products
Uses Advised Against: None known.

1.3 Supplier's details
Company Identification: VISHAY MEASUREMENTS GROUP, INC.
Post Office Box 27777
Raleigh, NC 27611
USA

Telephone: 919-365-3800
Fax: 919-365-3945
E-Mail (competent person): mm.us@vishaypg.com

1.4 Emergency Phone No.
1-800-424-9300
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 GHS Classification
Flam. Liq. 2: H225
Asp. Tox. 1: H304
Skin Irrit. 2: H315
Eye Irrit. 2: H319
STOT SE 3: H336
Repr. 2: H361d
STOT RE 2: H373

2.2 Label elements
Product Name: M-Line Rosin Solvent

Hazard Pictogram(s)

Signal Word(s): Danger
Contains:
Toluene and 2-Propanol

Hazard Statement(s)
H225: Highly flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.
H361d: Suspected of damaging the unborn child.
H373: May cause damage to organs through prolonged or repeated exposure:
Central nervous system.
Precautionary Statement(s)

P201: Obtain special instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P337+P313: If eye irritation persists: Get medical advice/attention.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.

Additional Information
None.

2.3 Other hazards
None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

GHS Classification

<table>
<thead>
<tr>
<th>Chemical identity of the substance</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>REACH Registration No.</th>
<th>Hazard Statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>45 - 55</td>
<td>108-88-3</td>
<td>203-625-9</td>
<td>None assigned</td>
<td>Flam. Liq. 2; H225&lt;br&gt;Asp. Tox. 1; H304&lt;br&gt;Skin Irrit. 2; H315&lt;br&gt;STOT SE 3; H336&lt;br&gt;Repr. 2; H361d&lt;br&gt;STOT RE 2; H373</td>
</tr>
<tr>
<td>2-Propanol</td>
<td>45 - 55</td>
<td>67-63-0</td>
<td>200-661-7</td>
<td>None assigned</td>
<td>Flam. Liq. 2; H225&lt;br&gt;Eye Irrit. 2; H319&lt;br&gt;STOT SE 3; H336</td>
</tr>
</tbody>
</table>

H225: Highly flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness. H361d: Suspected of damaging the unborn child. H373: May cause damage to organs through prolonged or repeated exposure.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. IF exposed or concerned: Get medical advice/attention.

Skin Contact
IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. If skin irritation occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.

Eye Contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if eye irritation develops or persists.

Ingestion
IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Immediately call a POISON CENTER/doctor. Rinse mouth. Drink two glasses of water. Do not give milk or alcoholic beverages. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or...
4.3 Indication of any immediate medical attention and special treatment needed

Do NOT induce vomiting, if vomiting does occur, have victim lean forward to reduce risk of aspiration. Latency of several hours is possible. Give a slurry of activated charcoal in water to drink. (240mL Water / 30 g Activated charcoal).

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable Extinguishing media
As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.

Unsuitable extinguishing media
Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture
Highly flammable liquid and vapour. May decompose in a fire giving off toxic fumes. Oxides of carbon. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.

5.3 Advice for fire-fighters
Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours.

6.2 Environmental precautions
Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up
Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste. See Section: 8, 13

6.4 Reference to other sections

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities
Ground/bond container and receiving equipment. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Store locked up.

Storage temperature
Ambient. Keep at temperature not exceeding (°C): 25

Storage life
Stable under normal conditions.

Incompatible materials
Strong oxidising agents, Acids (Nitric acid and Sulphuric acid), Aluminium, Halogens and halogenated compounds.

7.3 Specific end use(s)
PC38 Welding and soldering products (with flux coatings or flux cores.), flux products. See Section: 1.2

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits
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Revision: 1.1 Date: 10.04.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 453/2010

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>100</td>
<td>375</td>
<td>150*</td>
<td>560*</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>200</td>
<td>-</td>
<td>300</td>
<td>-</td>
<td>OSHA</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>400</td>
<td>980</td>
<td>500*</td>
<td>1225*</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>400</td>
<td>980</td>
<td>-</td>
<td>-</td>
<td>OSHA</td>
</tr>
</tbody>
</table>

Note: OSHA 1910.1000 TABLE Z-1 / *NIOSH 15 minutes average value

8.1.2 Biological limit value
Not established.

8.1.3 PNECs and DNELs
Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering controls
Ensure adequate ventilation. or Use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

8.2.2 Individual protection measures, such as personal protective equipment (PPE)

Eye/ face protection
Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection
Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves’ producer. Recommended: Polyethylene or Neoprene Gloves.

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection
In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment.

8.2.3 Environmental Exposure Controls
Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Clear Colourless Liquid
Odour: Benzene-like Odour
Odour threshold: Not available.
pH: Not established.
Melting point/freezing point: Not established.
Initial boiling point and boiling range: 82°C
Flash point: 4°C [Closed cup]
Evaporation rate: 2.8 (BuAc = 1)
Flammability (solid, gas): Not applicable - Liquid
Flammable Limits (Lower) (%v/v): 1.2
Flammable Limits (Upper) (%v/v): 7.1
Vapour pressure: 36 mmHg @ 30°C
Vapour density: 3 (Air = 1)
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**9.2 Other information**

VOC: 825 g/l

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### 10. SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Stability and reactivity

Stable under normal conditions.

#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Highly flammable liquid and vapour. Danger of flashback. Hazardous polymerisation will not occur.

#### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight.

#### 10.5 Incompatible materials

Strong oxidising agents, Acids (Nitric acid and Sulphuric acid), Aluminium, Halogens and halogenated compounds.

#### 10.6 Hazardous decomposition product(s)

May decompose in a fire giving off toxic fumes. Oxides of carbon.

---

### 11. SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects (Substances in preparations / mixtures)

**Acute toxicity**

- **Ingestion**
  
  Based upon the available data, the classification criteria are not met.
  
  Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >2000 mg/kg bw/day.

- **Inhalation**
  
  Based upon the available data, the classification criteria are not met.
  
  Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.

- **Skin Contact**
  
  Based upon the available data, the classification criteria are not met.
  
  Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.

**Skin corrosion/irritation**

Skin Irrit. 2: Causes skin irritation.

**Serious eye damage/irritation**

Eye Irrit. 2: Causes serious eye irritation.

**Respiratory or skin sensitization**

Based upon the available data, the classification criteria are not met.

**Germ cell mutagenicity**

Based upon the available data, the classification criteria are not met.

**Carcinogenicity**

Based upon the available data, the classification criteria are not met.

**Reproductive toxicity**

Repr. 2: Suspected of damaging the unborn child.

**STOT - single exposure**

STOT SE 3: May cause drowsiness or dizziness.

**STOT - repeated exposure**

STOT RE 2: May cause damage to organs through prolonged or repeated exposure: Central nervous system.

**Aspiration hazard**

Asp. Tox. 1: May be fatal if swallowed and enters airways.

#### 11.2 Other information

None.

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### 12. SECTION 12: ECOLOGICAL INFORMATION

#### 12.1 Toxicity

Based upon the available data, the classification criteria are not met.

Estimated Mixture LC50 >100 mg/l (Fish)

#### 12.2 Persistence and degradability

Part of the components are poorly biodegradable.

#### 12.3 Bioaccumulative potential

The product has low potential for bioaccumulation.

#### 12.4 Mobility in soil

The product is predicted to have high mobility in soil. May evaporate quickly.

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

#### 12.6 Other adverse effects

None known.
13. **SECTION 13: DISPOSAL CONSIDERATIONS**

13.1 Waste treatment methods

Dispose of this material and its container as hazardous waste. Containers of this material may be hazardous when empty since they retain product residue. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.

13.2 Additional Information

Dispose of contents in accordance with local, state or national legislation.

14. **SECTION 14: TRANSPORT INFORMATION**

14.1 UN number

UN 1993

14.2 Proper Shipping Name

FLAMMABLE LIQUID N.O.S (Toluene / 2-Propanol)

14.3 Transport hazard class(es)

3

14.4 Packing group

II

14.5 Environmental hazards

Not classified as a Marine Pollutant.

14.6 Special precautions for user

See Section: 2

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

14.8 Additional Information

None.

15. **SECTION 15: REGULATORY INFORMATION**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1 EU regulations

Volatile Organic Compound Content

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

SVHCs

None

Germany

Water hazard class: 2

15.1.2 National regulations

USA

NTP: Not listed

IARC Monographs: Not listed

OSHA Regulated: Not listed

15.2 Chemical Safety Assessment

Not available.

16. **SECTION 16: OTHER INFORMATION**

The following sections contain revisions or new statements: 1-16.

**References:** Existing Safety Data Sheet (SDS), Harmonised Classification(s) for 2-Propanol (CAS# 67-63-0) and Toluene (CAS# 108-88-3).

Existing ECHA registration(s) for 2-Propanol (CAS# 67-63-0) and Toluene (CAS# 108-88-3).

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Classification Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2; H225</td>
<td>Flash Point [Closed cup] Test Result/ Boiling Point (°C)</td>
</tr>
<tr>
<td>Asp. Tox. 1; H304</td>
<td>Estimated Viscosity</td>
</tr>
<tr>
<td>Skin Irrit. 2; H315</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>Eye Irrit. 2; H319</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>STOT SE 3; H336</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>Repr. 2; H361d</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>STOT RE 2; H373</td>
<td>Threshold Calculation</td>
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**LEGEND**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>LTEL</td>
<td>Long Term Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No Effect Level</td>
</tr>
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</table>
PNEC Predicted No Effect Concentration
PBT PBT: Persistent, Bioaccumulative and Toxic
vPvB very Persistent and very Bioaccumulative
NTP National Toxicology Program
IARC International Agency for Research on Cancer
OSHA The Occupational Safety & Health Administration
NIOSH National Institute for Occupational Safety and Health

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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Annex to the extended Safety Data Sheet (eSDS)

No information available.