

SAFETY DATA SHEET

Revision: 2.0 Date: 09 March 2017


ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

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

1.1	Product identifier Product Name	M-Line Rosin Solvent	
1.2	Relevant identified uses of the substance or mixture and uses advised against Identified Use(s) Uses Advised Against	PC38 Welding and soldering products (with flux coatings or flux cores.), flux products Anything other than the above.	
1.3	Details of the supplier of the safety data sheet Company Identification Telephone Fax E-Mail (competent person)	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom +44 (0) 1256 462131 +44 (0) 1256 471441 mm.uk@vishaypg.com	
1.4	Emergency telephone number Emergency Phone No. Languages spoken	(00-1) 703-527-3887 All official European languages.	CHEMTREC (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	
2.1.1	Regulation (EC) No. 1272/2008 (CLP)	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 Contains: Hazard Pictogram(s) Signal Word(s) Hazard Statement(s) Precautionary Statement(s)	According to Regulation (EC) No. 1272/2008 (CLP) M-Line Rosin Solvent Toluene and 2-Propanol  DANGER 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. P201: Obtain special instructions before use.

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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.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances** Not applicable**3.2 Mixtures**

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Toluene ^{^*}	45 - 55	108-88-3	203-625-9	Not yet assigned in the supply chain	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361d STOT RE 2; H373
2-Propanol [*]	45 - 55	67-63-0	200-661-7	Not yet assigned in the supply chain	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336

For full text of H/P Statements see section 16. [^]Substance with a Community workplace exposure limit. ^{*}Substance with a national exposure limit**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures**

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Avoid all contact. Avoid breathing vapours. Ensure adequate ventilation. Wear suitable respiratory protective equipment if exposure to high levels of material are likely. Do not use mouth-to-mouth resuscitation. Contaminated clothing should be laundered before reuse.

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

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4.3	Indication of any immediate medical attention and special treatment needed Notes to a physician:	damaging the unborn child. May cause damage to organs through prolonged or repeated exposure: Central nervous system. Treat symptomatically IF SWALLOWED: 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).
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SECTION 5: FIRE-FIGHTING MEASURES

5.1	Extinguishing media Suitable Extinguishing Media Unsuitable extinguishing Media	As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical. 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. In confined spaces, sewers, etc., the vapours may collect to form explosive mixtures with air.
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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	Personal precautions, protective equipment and emergency procedures	Caution - spillages may be slippery. Ensure operatives are trained to minimise exposures. Ensure suitable personal protection during removal of spillages. 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. Take precautionary measures against static discharge. 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. In confined spaces, sewers, etc., the vapours may collect to form explosive mixtures with air. 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	Provided it is safe to do so, isolate the source of the leak. 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. Allow small spillages to evaporate provided there is adequate ventilation.
6.4	Reference to other sections	See Section: 8, 13

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. Ensure operatives are trained to minimise exposures. Avoid all contact. Avoid breathing vapours. Do not ingest. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Wear protective gloves/eye protection. Use personal protective equipment as required. See Section: 8. This product should be kept away from naked flames and other sources of ignition. 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. Bund storage facilities to prevent soil and water pollution in the event of spillage. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot

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Storage temperature Storage life Incompatible materials	surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Store locked up. Ambient. Keep at temperature not exceeding (°C): 25 Stable under normal conditions. 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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters**8.1.1 Occupational Exposure Limits**

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Toulene	108-88-3	50	191	100	384	WEL, Sk
		50	192	100	384	IOELV
Propan-2-ol	67-63-0	400	999	500	1250	WEL

Source: WEL: Workplace Exposure Limit (UK HSE EH40), IOELV: Indicative Occupational Exposure Limit Value, Sk - Can be absorbed through skin.

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 operatives are trained to minimise exposures. Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

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

General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid all contact. Avoid breathing vapours. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place. IF exposed: Flush with fresh water if contact with skin or eyes.

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). At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374) 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: Nitrile rubber (Minimum thickness 0.38mm, breakthrough time >240 min), PVC (Minimum thickness 1.3mm, breakthrough time >60 min)

Body protection:

Wear suitable coveralls to prevent exposure to the skin.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. A suitable mask with filter type A (EN141 or EN405) may be appropriate.

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Thermal hazards Not applicable

8.2.3 Environmental Exposure Controls Avoid release to the environment.

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
Upper/lower flammability or explosive limits	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)
Relative density	0.8 (H ₂ O = 1)
Solubility(ies)	Not established.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information VOC: 825 g/l

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Highly flammable liquid and vapour. Vapour is explosive in air at temperatures higher than the flash point. Vapours are heavier than air and may travel considerable distances to a source of ignition and 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. Keep at temperature not exceeding (°C): 25
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.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	All test data taken from existing ECHA registrations for the substances mentioned.
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.
Toluene:	LD50 (oral,rat) mg/kg: 5580 (EU Method B.1)
Propan-2-ol:	LD50 (oral,rat) mg/kg: 5840 (OECD 401)
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
Toluene:	LC50 (inhalation) mg/l/4h: >20 (OECD 403)
Propan-2-ol:	LC50 (inhalation) mg/l/4h: >10000 (OECD 403)
Acute toxicity - Skin Contact	Based upon the available data, the classification criteria are not met.

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	Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Toluene:	LD50 (skin,rabbit) mg/kg: >5000 (Smyth HF et al, 1969)
Propan-2-ol:	LD50 (Skin, (rabbit)) ml.kg 16.4 (OECD 402)
Skin corrosion/irritation	Skin Irrit. 2; Causes skin irritation.
Toluene:	Test Result: Irritating to skin. (rabbit) (EU Method B.4)
Propan-2-ol:	Test Result: Negative (Nixon G et al, 1975)
Serious eye damage/irritation	Eye Irrit. 2; Causes serious eye irritation.
Toluene:	Test Result: Negative (OECD 405)
Propan-2-ol:	Test Result: Irritating to eyes. (rabbit) (OECD 405)
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Toluene:	Test Result: Negative (EU Method B.6)
Propan-2-ol:	Test Result: Negative (OECD 406)
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Toluene:	Test Result: Negative (EU Method B.13/14)
Propan-2-ol:	Test Result: Negative (OECD 476)
Carcinogenicity	Based upon the available data, the classification criteria are not met.
Toluene:	NOAEC 1200 ppm (OECD 453)
Propan-2-ol:	NOEL 5000 ppm (OECD 451)
Reproductive toxicity	Repr. 2; Suspected of damaging the unborn child.
Toluene:	NOAEC 600 ppm (Ono A et al, 1996)
Propan-2-ol:	No effects observed (OECD 416)
STOT - single exposure	STOT SE 3; May cause drowsiness or dizziness.
Toluene:	Narcotic effects – Rats (OECD 403)
Propan-2-ol:	Narcotic effects – Rats (OECD 403)
STOT - repeated exposure	STOT RE 2; May cause damage to organs through prolonged or repeated exposure.
Toluene:	NOAEL 625 mg/kg bw/day (EU Method B.26)
Propan-2-ol:	NOAEL 5000 ppm (OECD 451)
Aspiration hazard	Asp. Tox. 1; May be fatal if swallowed and enters airways.
Toluene:	Hydrocarbon. Kinematic Viscosity 0.59 mm ² /S
Propan-2-ol:	Not applicable
11.2 Other information	None known.

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)
Toluene:	LC50 (fish) mg/l 5.5 (Moles A et al, 1981)
Propan-2-ol:	LC50 (fish) mg/l 10000 (OECD 203)
12.2 Persistence and degradability	The product is biodegradable.
Toluene:	Readily biodegradable.
Propan-2-ol:	Readily biodegradable.
12.3 Bioaccumulative potential	The product has low potential for bioaccumulation.
Toluene:	The substance has low potential for bioaccumulation.
Propan-2-ol:	The substance has low potential for bioaccumulation.
12.4 Mobility in soil	The product is predicted to have high mobility in soil. May evaporate quickly.
Toluene:	The substance has high mobility in soil. Partially soluble.
Propan-2-ol:	The substance has high mobility in soil. Miscible with water.
12.5 Results of PBT and VPvB assessment	Not classified as PBT or vPvB.
12.6 Other adverse effects	None known.

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.

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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	UN 1993	UN 1993	UN 1993
14.2 UN proper shipping name	FLAMMABLE LIQUID N.O.S (Toluene / 2-Propanol)	FLAMMABLE LIQUID N.O.S (Toluene / 2-Propanol)	FLAMMABLE LIQUID N.O.S (Toluene / 2-Propanol)
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable		

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1 EU regulations	
Authorisations and/or Restrictions On Use	Toluene: Entry 48: Restricted as a substance or in mixtures > 0.1% w/w used in adhesives or spray paints for the general public
CoRAP Substance Evaluation	Toluene: Substance evaluated in 2012
Volatile Organic Compound Content	Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline).
15.1.2 National regulations	
Germany	Water hazard class: 2
Germany UBA Master List	Group 2: CMR substances Category 3
15.2 Chemical Safety Assessment	A chemical safety assessment is not required under REACH.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation 2015/830 format, all sections have been updated to include new information. Please review SDS with care.

References:

Existing Safety Data Sheet (SDS), Harmonised Classification(s) for 2-Propanol (CAS No. 67-63-0) and Toluene (CAS No. 108-88-3). Existing ECHA registration(s) for 2-Propanol (CAS No. 67-63-0) and Toluene (CAS No. 108-88-3).

Website: <http://www.viscopedia.com/viscosity-tables/substances/toluene/>

Literature References:

- Smyth HF, Carpenter CP, Weil CS, Pozzani UC, Streigel JA and Nycum JS, 1969, Range-finding toxicity data: List VII, American Industrial Hygiene Association Journal 30, 470-476
- Nixon G, Tyson C & Wertz W, 1975, Interspecies Comparisons of Skin Irritancy, Toxicology and Applied Pharmacology 31, 481-490 (1975)
- Ono A, Sekita K, Ogawa Y, Hirose A, Suzuki S, Saito M, Naito K, Kaneko T, Furuya T, Kawashima K, Yasuhara K, Matsumoto K, Tanaka S, Inoue T and Kurokawa Y, 1996, Reproductive and developmental toxicity studies of toluene II. Effects of inhalation exposure on fertility in rats, Journal of Environmental Pathology Toxicology and Oncology 15, 9-20
- Moles A, Bates S, Rice SD, Korn S, 1981, Reduced growth of Coho salmon fry exposed to two petroleum components, Toluene and naphthalene in fresh water, transactions A. Fish. Soc. 110, 430-436.

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Flam. Liq. 2; H225	Flash Point [Closed cup] Test Result/ Boiling Point (°C)
Asp. Tox. 1; H304	Threshold Calculation, Estimated Viscosity

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Skin Irrit. 2; H315	Threshold Calculation
Eye Irrit. 2; H319	Threshold Calculation
STOT SE 3; H336	Threshold Calculation
Repr. 2; H361d	Threshold Calculation
STOT RE 2; H373	Threshold Calculation

LEGEND

LTEL: Long Term Exposure Limit

DNEL: Derived No Effect Level

PBT: PBT: Persistent, Bioaccumulative and Toxic

STEL: Short Term Exposure Limit

PNEC: Predicted No Effect Concentration

vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:

Flam. Liq. 2; Flammable Liquid, Category 2

Asp. Tox. 1; Aspiration hazard, Category 1

Skin Irrit. 2; Skin corrosion/irritation, Category 2

Eye Irrit. 2; Eye Irritation, Category 2

STOT SE 3; Specific target organ toxicity — single exposure, Category 3

Repr. 2; Reproductive toxicity, Category 2

STOT RE 2; Specific target organ toxicity — repeated exposure, Category 2

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.

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.

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