

# SAFETY DATA SHEET

Version: 2.0

Date of issue: 18 February 2021

Date of First Issue: 10 May 2018

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In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)

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

### Product identifier

Product Name

M-Line Rosin Solvent

### Other Means of Identification

None

### Recommended use and restrictions

Recommended use

Welding and soldering products (with flux coatings or flux cores), flux products

Restrictions on use

Anything other than the above.

### Initial Supplier Identifier

#### Company Identification

Telephone

VISHAY MEASUREMENTS GROUP, INC.

Post Office Box 27777

Raleigh, NC 27611

USA

E-Mail (competent person)

[mm.us@vishaypg.com](mailto:mm.us@vishaypg.com)

### Emergency telephone number

Emergency Phone No.

1-800-424-9300

CHEMTREC (24 hours)

Languages spoken

English, French

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)

Flammable Liquid - Category 2

Aspiration hazard - Category 1

Skin corrosion/irritation - Category 2

Eye Irritation - Category 2

Specific target organ toxicity — single exposure, Category 3

Specific target organ toxicity — repeated exposure, Category 2

Reproductive toxicity - Category 2

Aquatic toxicity, Chronic - Category 3

### Label elements

Hazard Pictogram(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Highly flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

Causes serious eye irritation.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

Suspected of damaging the unborn child.

Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

Obtain special instructions before use.

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

Keep container tightly closed.

Do not breathe vapour.

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Wash hands and exposed skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe mist/vapours/spray.  
Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
Do NOT induce vomiting.  
Call a POISON CENTER/doctor if you feel unwell.  
Store in a well-ventilated place. Keep cool.  
Avoid release to the environment.  
Dispose of contents in accordance with local, state or national legislation.

Other hazards

None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures

### GHS Classification

Chemical Name	CAS No.	Concentration (%W/W)	Common name(s), synonym(s) of the substance	Hazard classification
Toluene	108-88-3	30 - 60	Methylbenzene	Flammable Liquid - Category 2 Skin corrosion/irritation - Category 2 Aspiration hazard - Category 1 Specific target organ toxicity — single exposure - Category 3 (Narcosis/Central nervous system) Specific target organ toxicity — repeated exposure - Category 2 Reproductive toxicity - Category 2 Aquatic toxicity, Chronic - Category 3
2-Propanol	67-63-0	30 - 60	Isopropanol; Isopropyl alcohol	Flammable Liquid - Category 2 Eye Irritation - Category 2 Specific target organ toxicity — single exposure - Category 3 (Narcosis/Central nervous system)

Prescribed Concentration Ranges used for trade secret purposes (Canada Gazette, Part II, Vol. 152, No. 8)

## SECTION 4: FIRST AID MEASURES



Description of first aid measures  
Self-protection of the first aider

Inhalation

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.  
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.

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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. Rinse mouth. Drink two glasses of water. Do not give milk or alcoholic beverages. Do not give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	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 repeated exposure: Central nervous system.
<b>Indication of any immediate medical attention and special treatment needed</b>	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).

## SECTION 5: FIRE-FIGHTING MEASURES

<b>Extinguishing media</b>	
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.
<b>Special hazards arising from the substance or mixture</b>	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.
<b>Special protective equipment and precautions for fire fighters</b>	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

<b>Personal precautions, protective equipment and emergency procedures</b>	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.
<b>Environmental precautions</b>	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
<b>Methods and material for containment and cleaning up</b>	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.
<b>Reference to other sections</b>	See Section: 8, 13

## SECTION 7: HANDLING AND STORAGE

<b>Precautions for safe handling</b>	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.
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### Conditions for safe storage, including any incompatibilities

Storage temperature  
Incompatible materials

Specific end use(s)

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.

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 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

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

See Section: 1.2

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Occupational Exposure Limits

SUBSTANCE	CAS No.	ACGIH® TLV® (ppm)		OSHA PEL (ppm)		Note
		TWA	STEL	TWA	STEL	
Toluene	108-88-3	20	-	200	300	A4
2-Propanol	67-63-0	200	400	400	980 mg/m <sup>3</sup>	A4

Source: ACGIH: American Conference of Governmental Industrial Hygiene. TLV: Threshold Limit Value (ACGIH) PEL (OSHA)

A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

### Alberta: Occupational Health And Safety Code, 2009; Quebec: Health and Safety Work Act, 2020

SUBSTANCE	CAS No.	8-hour Occupational Exposure Limits			15-minute or ceiling (c) Occupational Exposure Limits		Note
		ppm	mg/m <sup>3</sup>	f/cc	STEL (ppm)	STEL (mg/m <sup>3</sup> )	
		Toluene	108-88-3	50	188	-	
		50	188	-	-	-	OEL
2-Propanol	67-63-0	200	492	-	400	984	Alberta
		400	985	-	500	1230	OEL

Source: Alberta: Occupational Health And Safety Code, 2009

OEL: Quebec Work Health and Safety Regulations, Health and Safety Work Act, (Chapter S – 2.1, a. 223)

1: Can be readily absorbed through intact skin.

### British Columbia: Occupational Health and Safety Guidelines, 2015; Northwest Territories: Occupational Health and Safety Regulations, 2012; Yukon Territory: Occupational Health and Safety Act, 1986

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Toluene	108-88-3	20	-	-	-	WEL
		50	-	60	-	NW, Sk
		100	375	-	-	YK
2-Propanol	67-63-0	200	-	400	-	WEL
		200	-	400	-	NW

Source: WEL: Occupational Health and Safety Guidelines Part 5: Chemical Agents and Biological Agents (British Columbia)

NW: WSCC, Occupational Health and Safety Regulations, Northwest Territories Volume 3

Yukon Territory (YK): Occupational Health and Safety Act. O.I.C. 1986/164 Occupational Health Regulations.

Sk - Can be absorbed through skin.

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Ontario: Occupational Health and Safety Act, 1990; Saskatchewan: Occupational Health and Safety Regulations, 1996.

SUBSTANCE	CAS No.	Time Weighted Average (TWA)	STEL (ppm)	Note
Toluene	108-88-3	-	20	WEL
2-Propanol	67-63-0	200	400	WEL
		200	400	SK

Source: WEL: Occupational Health and Safety Act, R.R.O. 1990, Regulation 833, CONTROL OF EXPOSURE TO BIOLOGICAL OR CHEMICAL AGENTS (Ontario)

Saskatchewan (SK): Occupational Health and Safety Act, 1993. O-1.1 REG 1 Occupational Health and Safety Regulations, 1996.

## Biological limit value

SUBSTANCE	CAS No.	Biological exposure determinant factors	Biological Exposure Indices	Sampling Time	Note
Toluene	108-88-3	Toluene: Blood	0.02 mg/L	Prior to last shift of workweek	-
		Toluene: Urine	0.03 mg/L	End of Shift	-
		o-Cresol: Urine <sup>^</sup>	0.3 mg/g Creatinine	End of Shift	1
2-Propanol	67-63-0	Acetone: Urine	40 mg/L	End of Shift: end of workweek	Ns, 1

Source: 2015 ACGIH Biological Exposure Indices (BEIs)

1: Background level

Ns - Nonspecific

<sup>^</sup> Hydrolysis

## Exposure controls

### 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.

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

Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. General hygiene measures for the handling of chemicals are applicable. 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.

### Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection.

### Skin protection



### Hand protection:

Wear impervious gloves. At least protective index 2, corresponding > 30 minutes of permeation time. 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 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. A suitable mask with filter type A may be appropriate.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 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 (Water = 1)	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 <sub>2</sub> 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.

### Other information

Volatile Organic Compound Content: 825 g/L

## SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Highly flammable liquid and vapour. Danger of flashback. Hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	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
<b>Incompatible materials</b>	Strong oxidising agents, Acids (Nitric acid and Sulphuric acid), Halogens and halogenated compounds.
<b>Hazardous decomposition product(s)</b>	May decompose in a fire giving off toxic fumes. Oxides of carbon.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Acute toxicity - Ingestion</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
<b>Acute toxicity - Inhalation</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
<b>Acute toxicity - Skin Contact</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
<b>Skin corrosion/irritation</b> Toluene	Skin corrosion/irritation - Category 2: Causes skin irritation. Skin corrosion/irritation - Category 2 Irritating to skin. (rabbit) (EU Method B.4)
<b>Serious eye damage/irritation</b> 2-Propanol	Eye Irritation - Category 2: Causes serious eye irritation. Eye Irritation - Category 2 Irritating to eyes. (rabbit) (OECD 405)
<b>Respiratory or skin sensitization</b>	Based upon the available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based upon the available data, the classification criteria are not met.

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<b>Carcinogenicity</b>	Based upon the available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Reproductive toxicity - Category 2: Suspected of damaging the unborn child.
Toluene	Reproductive toxicity - Category 2 NOAEC 600 ppm (Ono, 1996)
<b>STOT - single exposure</b>	Specific target organ toxicity — single exposure, Category 3: May cause drowsiness or dizziness.
Toluene	Specific target organ toxicity — single exposure, Category 3 Narcosis (rat) (OECD 403)
2-Propanol	Specific target organ toxicity — single exposure, Category 3 Narcosis (rat) (OECD 403)
<b>STOT - repeated exposure</b>	Specific target organ toxicity — repeated exposure, Category 2; May cause damage to organs through prolonged or repeated exposure.
Toluene	Specific target organ toxicity — repeated exposure, Category 2 Oral: NOAEL 625 mg/kg bw/day (EU Method B.26) Inhalation: NOAEC 1131 mg/m <sup>3</sup> (rabbit) (OECD 453) Dermal: No data
<b>Aspiration hazard</b>	Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.
Toluene	Aspiration hazard, Category 1 Hydrocarbon. Kinematic Viscosity 0.59 mm <sup>2</sup> /S
<b>Other information</b>	None known.

## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity</b>	Aquatic toxicity, Chronic - Category 3; Harmful to aquatic life with long lasting effects.
Toluene	Estimated Mixture LC50 > 10 ≤ 100 mg/l. (Fish) Aquatic toxicity, Chronic - Category 3 Acute: LC50 (fish) mg/l 5.5 (96 hour) (Moles A et al, 1981) Chronic: NOEC (Fish) mg/l 1.4 (40 days) (Moles A et al, 1981)
<b>Persistence and degradability</b>	Part of the components are poorly biodegradable.
<b>Bioaccumulative potential</b>	The product has low potential for bioaccumulation.
<b>Mobility in soil</b>	The product is predicted to have high mobility in soil. May evaporate quickly.
<b>Other adverse effects</b>	None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>Waste treatment methods</b>	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.
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## SECTION 14: TRANSPORT INFORMATION

	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA/ICAO</b>
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 as a Marine Pollutant.	Not classified as a Marine Pollutant.	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 MARPOL73/78 and the IBC Code	Not applicable		

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## SECTION 15: REGULATORY INFORMATION

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

#### National regulations

CEPA, Domestic Substances List

Toluene: Yes  
2-Propanol: Yes

CEPA, Priority Substances List

Toluene: PSL 1

CEPA, List of Toxic Substances (Schedule 1)

Toluene: VOC - Item 65  
2-Propanol: VOC - Item 65

CEPA, National Pollutant Release Inventory

Toluene: Threshold Category: Part 1A, Mass Threshold: 10 tonnes MPO  
Concentration threshold: 1%; Threshold Category: Part 5, Mass Threshold: 1 tonnes of 10 tonnes Total VOC air release, Concentration threshold: N/A  
2-Propanol: Threshold Category: 1A, Mass Threshold: 10 tonnes MPO, Concentration threshold: 1%; Threshold Category: 5, Mass Threshold: 1 tonnes of 10 tonnes Total VOC air release, Concentration threshold: N/A

CEPA, Environmental Emergency Regulations

Toluene: Part 1: Substances Likely to Explode. Concentration:  $\geq 1\%$  w/w. Volume (Minimum): 2500 tonnes (metric).

#### Non-Regional

IARC Monographs, List of Classifications

Toluene: Group 3  
2-Propanol: Group 3

## SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 2; 7; 8; 10

Sections indicated with the following have been revised:

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### References:

Existing Safety Data Sheet (SDS).

EU: Harmonised Classification(s) for Toluene (CAS No. 108-88-3), 2-Propanol (CAS No. 67-63-0). Existing ECHA registration(s) for Toluene (CAS No. 108-88-3), 2-Propanol (CAS No. 67-63-0).

### Literature References:

- 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

### LEGEND

LTEL: Long Term Exposure Limit

STEL: Short Term Exposure Limit

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program

OSHA = Occupational Safety and Health Administration

NIOSH/NIOSH: National Institute for Occupational Safety and Health Technical Information Center

ACGIH: American conference of Governmental Industrial Hygiene

BEI: Biological Exposure Indices (ACGIH)

TLV: Threshold Limit Value (ACGIH)

TWA: Time Weighted Average

VOC: Volatile Organic Compound

EU: European Union

CEPA (Canadian Environmental Protection Act)

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