SAFETY DATA SHEET



according to Workplace Safety and Health Regulations Singapore

Threadlocking Varnish

Section 1. Identification

Product identifier : Threadlocking Varnish

Product code : 300200

Relevant identified uses of the substance or mixture and uses advised against

Paint. Plating agent-Industrial application of coatings and inks

Supplier's details : WEICON GmbH & Co. KG

Königsberger Str. 255

48157 Münster

Germany

Phone: +49 251 93220 Fax: +49(0)251 / 9322 - 244 Internet: www.weicon.de

e-mail address of person responsible for this SDS

: msds@weicon.de

Emergency telephone

number

: EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333

(English)

TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44

1865 407333 (English)

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2

SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

GHS label elements, including precautionary statements

Hazard pictograms





Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapor.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements

Prevention: P280 - Wear protective gloves. Wear eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P241 - Use explosion-proof electrical, ventilating or lighting equipment.

P242 - Use non-sparking tools.

P243 - Take action to prevent static discharges.

P233 - Keep container tightly closed. P264 - Wash thoroughly after handling.

Response: P362 + P364 - Take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : P403 + P235 - Store in a well-ventilated place. Keep cool.
 Disposal : P501 - Dispose of waste according to applicable legislation.

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Section 2. Hazards identification

Other hazards which do not : None known.

result in classification

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
2-butanone	≥10 - <20	78-93-3
xylene isomers mixture	≥10 - ≤25	1330-20-7
cyclohexanone	≤10	108-94-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Chemical formula : Not applicable.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower

eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10

minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen

tight clothing such as a collar, tie, belt or waistband.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and

shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash

clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. If material has been

swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such

as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact: Causes skin irritation.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

pain or irritation

watering redness

Inhalation : No specific data.

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Section 4. First aid measures

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It

may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Specific hazards arising from the chemical

: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products

: Decomposition products may include the following materials:

carbon dioxide carbon monoxide

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

. Fire field

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is

inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any

information in Section 8 on suitable and unsuitable materials. See also the

information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways,

drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

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Section 6. Accidental release measures

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name Exposure limits	
2-butanone	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 200 ppm 8 hours. PEL (long term): 590 mg/m³ 8 hours. PEL (short term): 885 mg/m³ 15 minutes. PEL (short term): 300 ppm 15 minutes.
xylene isomers mixture	Workplace Safety and Health Act (Singapore, 2/2006). [Xylene] PEL (long term): 100 ppm 8 hours. PEL (long term): 434 mg/m³ 8 hours. PEL (short term): 651 mg/m³ 15 minutes. PEL (short term): 150 ppm 15 minutes.
cyclohexanone	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 25 ppm 8 hours. PEL (long term): 100 mg/m³ 8 hours.

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Section 8. Exposure controls/personal protection

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended: 1 - 4 hours (breakthrough time): nitrile rubber; 4 - 8 hours (breakthrough time): Viton®/butyl rubber

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapor (Type AX) and particulate filter

Section 9. Physical and chemical properties

<u>Appearance</u>

Physical state : Liquid.
Color : Various
Odor : Aromatic.
Odor threshold : Not available.
pH : Not applicable.
Melting point/freezing point : Not available.
Boiling point, initial boiling : Not available.

point, and boiling range

Flash point : Closed cup: -18 to 23°C (-0.4 to 73.4°F)

Fire point : 250°C (482°F)

Evaporation rate : Not available.

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Section 9. Physical and chemical properties

Flammability : Flammable in the presence of the following materials or conditions: heat.

Lower and upper explosion limit/flammability limit

: Lower: 1.8% Upper: 11.5%

Vapor pressure : <0 kPa (<0 mm Hg)

Relative vapor density : Not available.
Relative density : Not available.

Density : 1 g/cm³ [20°C (68°F)]

Solubility(ies)

Not available.

Solubility in water

: Not available.

Miscible with water

: Yes.

Partition coefficient: n-

octanol/water

: Not applicable.

Auto-ignition temperature

Viscosity

: Not applicable.

Decomposition temperature

: Not available.: Not available.

Flow time (ISO 2431)

: Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:

oxidizing materials

Hazardous decomposition

products

: Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

SADT : Not available.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-butanone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
xylene isomers mixture	LD50 Oral	Rat	4300 mg/kg	-
cyclohexanone	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Oral	Rat	1800 mg/kg	-

Irritation/Corrosion

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Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-butanone	Skin - Mild irritant	Rabbit	-	24 hours 14	-
				mg	
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
xylene isomers mixture	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5	-
				mg	
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
cyclohexanone	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250	-
				ug	
	Skin - Mild irritant	Human	-	48 hours 50	-
				%	
	Skin - Mild irritant	Rabbit	-	500 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	,g.,	Route of exposure	Target organs
2-butanone	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

: Not available.

routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation: No known significant effects or critical hazards.

Skin contact: Causes skin irritation.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain or irritation

watering redness

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Section 11. Toxicological information

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Threadlocking Varnish	24000.0	N/A	70933.3	N/A	N/A
2-butanone	2737	6480	N/A	N/A	N/A
xylene isomers mixture	4300	N/A	N/A	N/A	N/A
cyclohexanone	1800	N/A	8000	N/A	N/A

Acute toxicity estimates

Route	ATE value
Oral	24000 mg/kg
Inhalation (gases)	70933.33 ppm

Section 12. Ecological information

Toxicity

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Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
2-butanone	Acute EC50 >500000 μg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 μg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
xylene isomers mixture	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 13400 μg/l Fresh water	Fish - Pimephales promelas	96 hours
cyclohexanone	Acute EC50 32.9 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 527000 μg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic EC10 3.56 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours

Persistence/degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2-butanone xylene isomers mixture cyclohexanone	0.3 3.12 0.86	- 8.1 to 25.9 -	low low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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Section 14. Transport information

	UN	IMDG	IATA	ADR/RID
UN number	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	Paint	PAINT
Transport hazard class(es)	3	3	3	3
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.

Additional information

UN : <u>Special provisions</u> 163, 367

IMDG : <u>Emergency schedules</u> F-E, S-E

Special provisions 163, 367

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353.

Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities -

Passenger Aircraft: 1 L. Packaging instructions: Y341.

Special provisions A3, A72, A192

ADR/RID : <u>Hazard identification number</u> 33

Limited quantity 5 L

Special provisions 163, 640C, 650, 367

Tunnel code (D/E)

ADR Classification Code: F1

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

Transport in bulk according: Not available.

to IMO instruments

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

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Section 15. Regulatory information

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Eurasian Economic Union: Russian Federation inventory: All components are listed or exempted.

Japan : Japan inventory (CSCL): All components are listed or exempted.

Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted. **Philippines** : All components are listed or exempted. Republic of Korea : All components are listed or exempted. **Taiwan** : All components are listed or exempted. Thailand : All components are listed or exempted. Turkey : All components are listed or exempted. **United States** : All components are active or exempted. **Viet Nam** : All components are listed or exempted.

Section 16. Other information

History

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Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available SGG = Segregation Group UN = United Nations

Procedure used to derive the classification

Classification	Justification
5 ,	On basis of test data Calculation method Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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