Threadlocker - Medium Strength - Blue
J-B Weld Company, LLC

Version No: **1.3**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **11/18/2020**
Print Date: **11/18/2020**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Threadlocker - Medium Strength - Blue
Synonyms	24206, 24213, 24236, 24250
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company, LLC**
Address	400 CMH Road Sulphur Springs, TX 75482 United States
Telephone	903-885-7696
Fax	903-885-5911
Website	www.jbweld.com
Email	info@jbweld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	Transportation Emergencies (24 hour): 1-800-535-5053
Other emergency telephone numbers	Not Available

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Eye Irritation Category 2A, Carcinogenicity Category 1B, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 1B, Skin Sensitizer Category 1, Germ cell mutagenicity Category 2, Specific target organ toxicity - repeated exposure Category 1

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H319	Causes serious eye irritation.
H350	May cause cancer.
H315	Causes skin irritation.
H360	May damage fertility or the unborn child.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H372	Causes damage to organs through prolonged or repeated exposure. (Respiratory system) (Inhalation)

Hazard(s) not otherwise classified

Not Applicable

Page 1 continued...

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see advice on this label).
P362	Take off contaminated clothing and wash before reuse.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
80-15-9	1-5	cumyl hydroperoxide
98-82-8	0.1-1	cumene
57-55-6	1-5	propylene glycol
80-62-6	0.1-1	methyl methacrylate
609-72-3	0.1-1	N,N-dimethyl-o-toluidine
613-48-9	0.1-1	N,N-diethyl-p-toluidine
67-56-1	0.1-1	methanol
12188-41-9	0.1-1	titanium dioxide (brookite)
112945-52-5	1-5	silica amorphous, fumed, crystalline free

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

Continued...

See Section 11

Indication of any immediate medical attention and special treatment needed

For acute and short term repeated exposures to methanol:

- Toxicity results from accumulation of formaldehyde/formic acid.
- Clinical signs are usually limited to CNS, eyes and GI tract Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.
- Stabilise obtunded patients by giving naloxone, glucose and thiamine.
- Decontaminate with Ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.
- Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 meq/L).
- Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.
- Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8.Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant - observed following exposure to other materials.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.

Special hazards arising from the substrate or mixture

Fire Incompatibility	‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting	‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear full body protective clothing with breathing apparatus.
Fire/Explosion Hazard	‣ Combustible. ‣ Slight fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	‣ Remove all ignition sources. ‣ Clean up all spills immediately.
Major Spills	‣ Clear area of personnel and move upwind. ‣ Alert Fire Department and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	‣ Avoid all personal contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs. ‣ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	‣ Store in original containers. ‣ Keep containers securely sealed.

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Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	cumene	Cumol, Isopropyl benzene, 2-Phenyl propane	50 ppm / 245 mg/m3	Not Available	Not Available	[skin]
US OSHA Permissible Exposure Levels (PELs) - Table Z1	cumene	Cumene	50 ppm / 245 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	cumene	Cumene	50 ppm	Not Available	Not Available	Eye, skin, & URT irr; CNS impair
US NIOSH Recommended Exposure Limits (RELs)	methyl methacrylate	Methacrylate monomer, Methyl ester of methacrylic acid, Methyl-2-methyl-2-propenoate	100 ppm / 410 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z1	methyl methacrylate	Methyl methacrylate	100 ppm / 410 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	methyl methacrylate	Methyl methacrylate	50 ppm	100 ppm	Not Available	URT & eye irr; body weight eff; pulm edema
US NIOSH Recommended Exposure Limits (RELs)	methanol	Carbinol, Columbian spirits, Methanol, Pyroligneous spirit, Wood alcohol, Wood naphtha, Wood spirit	200 ppm / 260 mg/m3	325 mg/m3 / 250 ppm	Not Available	[skin]
US OSHA Permissible Exposure Levels (PELs) - Table Z1	methanol	Methyl alcohol	200 ppm / 260 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	methanol	Methanol	200 ppm	250 ppm	Not Available	Headache; eye dam; dizziness; nausea; BEI
US NIOSH Recommended Exposure Limits (RELs)	titanium dioxide (brookite)	Rutile, Titanium oxide, Titanium peroxide	Not Available	Not Available	Not Available	Ca See Appendix A
US OSHA Permissible Exposure Levels (PELs) - Table Z1	titanium dioxide (brookite)	Titanium dioxide: Total dust	15 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	Not Available	Not Available	LRT irr

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
cumyl hydroperoxide	Cumene hydroperoxide; (Isopropylbenzene hydroperoxide)	0.15 ppm	1.6 ppm	9.7 ppm
cumene	Cumene; (Isopropyl benzene)	Not Available	Not Available	Not Available
propylene glycol	Polypropylene glycols	30 mg/m3	330 mg/m3	2,000 mg/m3
propylene glycol	Propylene glycol; (1,2-Propanediol)	30 mg/m3	1,300 mg/m3	7,900 mg/m3
methyl methacrylate	Methyl methacrylate	Not Available	Not Available	Not Available
methanol	Methanol; (Methyl alcohol)	Not Available	Not Available	Not Available
titanium dioxide (brookite)	Titanium oxide; (Titanium dioxide)	30 mg/m3	330 mg/m3	2,000 mg/m3
silica amorphous, fumed, crystalline free	Silica, amorphous fumed	18 mg/m3	100 mg/m3	630 mg/m3

Ingredient	Original IDLH	Revised IDLH
cumyl hydroperoxide	Not Available	Not Available
cumene	900 ppm	Not Available
propylene glycol	Not Available	Not Available
methyl methacrylate	1,000 ppm	Not Available
N,N-dimethyl-o-toluidine	Not Available	Not Available
N,N-diethyl-p-toluidine	Not Available	Not Available
methanol	6,000 ppm	Not Available
titanium dioxide (brookite)	5,000 mg/m3	Not Available
silica amorphous, fumed, crystalline free	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit

Continued...

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
cumyl hydroperoxide	E	≤ 0.1 ppm
propylene glycol	E	≤ 0.1 ppm
N,N-dimethyl-o-toluidine	E	≤ 0.1 ppm
N,N-diethyl-p-toluidine	E	≤ 0.01 mg/m³
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Body protection	See Other protection below
Other protection	‣ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ‣ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. ‣ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. ‣ Overalls. ‣ P.V.C apron.

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- **Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.**
- **The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.**
- **Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used**

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Blue Liquid

Physical state	Liquid	**Relative density (Water = 1)**	1.05-1.2
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available

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Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision.
Ingestion	Ingestion of propylene glycol produced reversible central nervous system depression in humans following ingestion of 60 ml. Symptoms included increased heart-rate (tachycardia), excessive sweating (diaphoresis) and grand mal seizures in a 15 month child who ingested large doses (7.5 ml/day for 8 days) as an ingredient of vitamin preparation. The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result. Propylene glycol is thought to be sensitizing following the regular use of topical creams by eczema patients. Testing in humans showed that 16% of exposed individuals, irritation occurred, with 12.5% showing toxic or allergic reactions.

Threadlocker - Medium Strength - Blue	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
cumyl hydroperoxide	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: 500 mg/kg[2]	Eye (rabbit): 1 mg
	Inhalation (rat) LC50: 219.74898 mg/l/4hg[2]	Skin (rabbit): 500 mg - mild
	Oral (rat) LD50: 382 mg/kg[2]	
cumene	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 2000 mg/kg[2]	Eye (rabbit): 500 mg/24h mild
	Inhalation (rat) LC50: 39 mg/l/4H[2]	Eye (rabbit): 86 mg mild

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	Eye: no adverse effect observed (not irritating)[1]
	Skin (rabbit): 10 mg/24h mild
	Skin (rabbit):100 mg/24h moderate
	Skin: no adverse effect observed (not irritating)[1]

propylene glycol

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 20800 mg/kg[2]	Eye (rabbit): 100 mg - mild
Inhalation (rat) LC50: >44.9 mg/l/4H[2]	Eye (rabbit): 500 mg/24h - mild
Oral (dog) LD50: =20000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
Oral (mouse) LD50: =22000 mg/kg[2]	Skin(human):104 mg/3d Intermit Mod
Oral (mouse) LD50: =23900 mg/kg[2]	Skin(human):500 mg/7days mild
Oral (rabbit) LD50: =18000-19000 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
Oral (rabbit) LD50: =18500 mg/kg[2]	
Oral (rat) LD50: 20000 mg/kg[2]	

methyl methacrylate

TOXICITY	IRRITATION
=300 mg/kg[2]	Eye (rabbit): 150 mg
=500-5000 mg/kg[2]	Skin (rabbit): 10000 mg/kg (open)
=7500-15000 mg/kg[2]	
125 mg/kg[2]	
1252 mg/kg[2]	
2643 mg/kg[2]	
60 mg/kg[2]	
8500-9400 mg/kg[1]	
Dermal (rabbit) LD50: >5000 mg/kg[2]	
Inhalation (rat) LC50: 3745.72125 mg/l*[2]	
Inhalation (rat) LC50: 78 mg/l/4H[2]	
Oral (guinea pig) LD50: =5900 mg/kg[2]	
Oral (mouse) LD50: =5200 mg/kg[2]	
Oral (mouse) LD50: =5300 mg/kg[2]	
Oral (rabbit) LD50: =6000 mg/kg[2]	
Oral (rat) LD50: =8000 mg/kg[2]	
Oral (rat) LD50: =8500 mg/kg[2]	
Oral (rat) LD50: 7872 mg/kg[2]	

N,N-dimethyl-o-toluidine

TOXICITY	IRRITATION
Not Available	Not Available

N,N-diethyl-p-toluidine

TOXICITY	IRRITATION
Not Available	Not Available

methanol

TOXICITY	IRRITATION
=11000 mg/kg[2]	Eye (rabbit): 100 mg/24h-moderate
=420 mg/kg[2]	Eye (rabbit): 40 mg-moderate
=7000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
=7500 mg/kg[2]	Skin (rabbit): 20 mg/24 h-moderate
=7500 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
=9500 mg/kg[2]	
>=4000-7000 mg/kg[2]	
300 mg/kg[2]	
3429 mg/kg[2]	
6422 mg/kg[2]	
Inhalation (rat) LC50: 36208.63875 mg/l/1H[2]	

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	Oral (dog) LD50: =8000 mg/kg[2]
	Oral (monkey) LD50: =7000 mg/kg[2]
	Oral (mouse) LD50: =7300 mg/kg[2]
	Oral (rabbit) LD50: =14200 mg/kg[2]
	Oral (rabbit) LD50: =14400 mg/kg[2]
	Oral (rat) LD50: =10300 mg/kg[2]
	Oral (rat) LD50: =12800 mg/kg[2]
	Oral (rat) LD50: =5300 mg/kg[2]
	Oral (rat) LD50: =5800 mg/kg[2]
	Oral (rat) LD50: =6200 mg/kg[2]
	Oral (rat) LD50: =7000 mg/kg[2]
	Oral (rat) LD50: =9100 mg/kg[2]
	Oral (rat) LD50: 5628 mg/kg[2]

titanium dioxide (brookite)	**TOXICITY**	**IRRITATION**
	0.0032 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	0.04 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]

silica amorphous, fumed, crystalline free	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5000 mg/kg[2]	Not Available
	Oral (rat) LD50: 3160 mg/kg[2]	

Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

Threadlocker - Medium Strength - Blue	Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.
CUMYL HYDROPEROXIDE	Bacterial cell mutagen Equivocal tumorigen by RTECS criteria
CUMENE	Cumene is reasonably anticipated to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in experimental animals. Cumene caused tumours at several tissue sites, including lung and liver in mice and kidney in male rats. similar metabolic pathways. There is also evidence that cumene is genotoxic in some tissues, based on findings of DNA damage in rodent lung and liver. The relevance of the kidney tumors to cancer in humans is uncertain; there is evidence that a species-specific mechanism not relevant to humans contributes to their induction, but it is possible that other mechanisms relevant to humans, such as genotoxicity, may also contribute to kidney-tumour formation in male rats. For aromatic terpenes: p-cymene and cumene have low toxic potential and are excreted in the urine. At very high doses in animal testing, inco-ordination, damage to the kidneys and lung inflammation, with decrease in thymus weight, occurred. Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [*National Toxicology Program: U.S. Dep. of Health & Human Services 2002*] **WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
METHYL METHACRYLATE	MMA is absorbed after inhalation, oral intake and less readily through the skin. Following inhalation it is partly deposited in the airway where it is metabolised by local enzymes. Where no 'official' classification for acrylates and methacrylates exists, there have been cautious attempts to create classifications in the absence of contrary evidence. For example Monalkyl or monoarylesters of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38 The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer *de facto* carcinogens. Inhalation (human) TCLo: 60 mg/m3(15 ppm) [* Manuf. Rohm & Haas]
TITANIUM DIOXIDE (BROOKITE)	Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle. For titanium dioxide
SILICA AMORPHOUS, FUMED, CRYSTALLINE FREE	For silica amorphous: Derived No Adverse Effects Level (NOAEL) in the range of 1000 mg/kg/d. In humans, synthetic amorphous silica (SAS) is essentially non-toxic by mouth, skin or eyes, and by inhalation. Epidemiology studies show little evidence of adverse health effects due to SAS.
Threadlocker - Medium Strength - Blue & METHYL METHACRYLATE & N,N-DIETHYL-P-TOLUIDINE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.
Threadlocker - Medium Strength - Blue & PROPYLENE GLYCOL	The acute oral toxicity of propylene glycol is very low; large amounts are needed to cause perceptible health damage in humans. Serious toxicity generally occurs only at blood concentrations over 1 g/L, which requires extremely high intake over a relatively short period of time; this is nearly impossible with consuming foods or supplements which contain 1g/kg of PG at most.

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CUMYL HYDROPEROXIDE & TITANIUM DIOXIDE (BROOKITE)	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
CUMYL HYDROPEROXIDE & CUMENE & PROPYLENE GLYCOL & METHANOL & TITANIUM DIOXIDE (BROOKITE)	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
CUMYL HYDROPEROXIDE & CUMENE & METHYL METHACRYLATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound.
N,N-DIETHYL-P-TOLUIDINE & TITANIUM DIOXIDE (BROOKITE)	No significant acute toxicological data identified in literature search.

Acute Toxicity	✗	**Carcinogenicity**	✓
Skin Irritation/Corrosion	✓	**Reproductivity**	✓
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✓
Mutagenicity	✓	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

Threadlocker - Medium Strength - Blue

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

cumyl hydroperoxide

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	3.9mg/L	2
EC50	48	Crustacea	18.84mg/L	2
NOEC	96	Fish	1.5mg/L	2

cumene

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	2.7mg/L	2
EC50	48	Crustacea	0.6mg/L	2
EC50	72	Algae or other aquatic plants	1.29mg/L	2
NOEC	336	Crustacea	0.0000006mg/L	5

propylene glycol

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>10-mg/L	2
EC50	48	Crustacea	43-500mg/L	2
EC50	96	Algae or other aquatic plants	19-100mg/L	2
NOEC	168	Fish	11-530mg/L	2

methyl methacrylate

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>79mg/L	2
EC50	48	Crustacea	69mg/L	2
EC50	72	Algae or other aquatic plants	>1-260mg/L	2
NOEC	504	Crustacea	37mg/L	2

N,N-dimethyl-o-toluidine

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

N,N-diethyl-p-toluidine

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

methanol

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	11-850mg/L	2

Continued...

	EC50	48	Crustacea	>10-mg/L	2
	EC50	96	Algae or other aquatic plants	ca.22-mg/L	2
	NOEC	504	Crustacea	4-380mg/L	2

titanium dioxide (brookite)

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>1-mg/L	2
EC50	48	Crustacea	>1-mg/L	2
EC50	72	Algae or other aquatic plants	>10-mg/L	2
NOEC	504	Crustacea	<0.1mg/L	2

silica amorphous, fumed, crystalline free

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Propylene glycol is known to exert high levels of biochemical oxygen demand (BOD) during degradation in surface waters. This process can adversely affect aquatic life by consuming oxygen needed by aquatic organisms for survival.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
cumyl hydroperoxide	LOW (Half-life = 56 days)	LOW (Half-life = 5.42 days)
cumene	HIGH	HIGH
propylene glycol	LOW	LOW
methyl methacrylate	LOW	LOW
N,N-dimethyl-o-toluidine	HIGH	HIGH
N,N-diethyl-p-toluidine	HIGH	HIGH
methanol	LOW	LOW
titanium dioxide (brookite)	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
cumyl hydroperoxide	LOW (BCF = 35.5)
cumene	LOW (BCF = 35.5)
propylene glycol	LOW (BCF = 1)
methyl methacrylate	LOW (BCF = 6.6)
N,N-dimethyl-o-toluidine	LOW (LogKOW = 2.85)
N,N-diethyl-p-toluidine	LOW (LogKOW = 3.7001)
methanol	LOW (BCF = 10)
titanium dioxide (brookite)	LOW (BCF = 10)

Mobility in soil

Ingredient	Mobility
cumyl hydroperoxide	LOW (KOC = 2346)
cumene	LOW (KOC = 817.2)
propylene glycol	HIGH (KOC = 1)
methyl methacrylate	LOW (KOC = 10.14)
N,N-dimethyl-o-toluidine	LOW (KOC = 127.4)
N,N-diethyl-p-toluidine	LOW (KOC = 466.1)
methanol	HIGH (KOC = 1)
titanium dioxide (brookite)	LOW (KOC = 23.74)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

Continued...

	▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Authority for disposal.

SECTION 14 Transport information

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

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

cumyl hydroperoxide is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)	US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)
US EPCRA Section 313 Chemical List	US TSCA Chemical Substance Inventory - Interim List of Active Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory	

cumene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List	US DOE Temporary Emergency Exposure Limits (TEELs)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US EPA Integrated Risk Information System (IRIS)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B : Possibly carcinogenic to humans	US EPCRA Section 313 Chemical List
US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants	US National Toxicology Program (NTP) 14th Report Part B. Reasonably Anticipated to be a Human Carcinogen
US - California Proposition 65 - Carcinogens	US NIOSH Recommended Exposure Limits (RELs)
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US ACGIH Threshold Limit Values (TLV)	US OSHA Permissible Exposure Limits - Annotated Table Z-1
US ACGIH Threshold Limit Values (TLV) - Notice of Intended Changes	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US AIHA Workplace Environmental Exposure Levels (WEELs)	US TSCA Chemical Substance Inventory - Interim List of Active Substances
US Clean Air Act - Hazardous Air Pollutants	US TSCA Section 4/12 (b) - Sunset Dates/Status

propylene glycol is found on the following regulatory lists

US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US DOE Temporary Emergency Exposure Limits (TEELs)	US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)
US EPA Integrated Risk Information System (IRIS)	US TSCA Chemical Substance Inventory - Interim List of Active Substances

methyl methacrylate is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US EPA Integrated Risk Information System (IRIS)
US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants	US EPCRA Section 313 Chemical List
US ACGIH Threshold Limit Values (TLV)	US NIOSH Recommended Exposure Limits (RELs)
US ACGIH Threshold Limit Values (TLV) - Carcinogens	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US AIHA Workplace Environmental Exposure Levels (WEELs)	US OSHA Permissible Exposure Limits - Annotated Table Z-1
US Clean Air Act - Hazardous Air Pollutants	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US CWA (Clean Water Act) - List of Hazardous Substances	US TSCA Chemical Substance Inventory - Interim List of Active Substances
US DOE Temporary Emergency Exposure Limits (TEELs)	

N,N-dimethyl-o-toluidine is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

N,N-diethyl-p-toluidine is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

methanol is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List	US EPA Integrated Risk Information System (IRIS)
US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity	US EPCRA Section 313 Chemical List
US - California Proposition 65 - Reproductive Toxicity	US NIOSH Recommended Exposure Limits (RELs)
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US ACGIH Threshold Limit Values (TLV)	US OSHA Permissible Exposure Limits - Annotated Table Z-1
US AIHA Workplace Environmental Exposure Levels (WEELs)	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US Clean Air Act - Hazardous Air Pollutants	US TSCA Chemical Substance Inventory - Interim List of Active Substances
US DOE Temporary Emergency Exposure Limits (TEELs)	

titanium dioxide (brookite) is found on the following regulatory lists

Continued...

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B : Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US AIHA Workplace Environmental Exposure Levels (WEELs)
US DOE Temporary Emergency Exposure Limits (TEELs)
US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Limits - Annotated Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

silica amorphous, fumed, crystalline free is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	Yes
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Aspiration Hazard	No
Germ cell mutagenicity	Yes
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
alpha,alpha-Dimethylbenzylhydroperoxide	10	4.54
Benzene, (1-methylethyl)-	5000	2270
Methyl methacrylate	1000	454
Methanol	5000	2270

State Regulations

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - California Proposition 65 - Carcinogens: Listed substance

Cumene, Titanium dioxide (airborne, unbound particles of respirable size) Listed

US - California Proposition 65 - Reproductive Toxicity: Listed substance

Methanol Listed

National Inventory Status

National Inventory	Status
Australia - AIIC	Yes
Australia - Non-Industrial Use	No (cumyl hydroperoxide; cumene; propylene glycol; methyl methacrylate; N,N-dimethyl-o-toluidine; N,N-diethyl-p-toluidine; methanol; titanium dioxide (brookite); silica amorphous, fumed, crystalline free)

Continued...

National Inventory	Status
Canada - DSL	Yes
Canada - NDSL	No (cumyl hydroperoxide; cumene; propylene glycol; methyl methacrylate; N,N-dimethyl-o-toluidine; N,N-diethyl-p-toluidine; methanol; titanium dioxide (brookite); silica amorphous, fumed, crystalline free)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (silica amorphous, fumed, crystalline free)
Japan - ENCS	No (silica amorphous, fumed, crystalline free)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	No (silica amorphous, fumed, crystalline free)
Taiwan - TCSI	Yes
Mexico - INSQ	No (N,N-dimethyl-o-toluidine; N,N-diethyl-p-toluidine)
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	11/18/2020
Initial Date	11/16/2020

SDS Version Summary

Version	Issue Date	Sections Updated
0.3.1.1.1	11/17/2020	Appearance, Disposal, Fire Fighter (fire/explosion hazard), Fire Fighter (fire fighting), Handling Procedure, Instability Condition, Personal Protection (Respirator), Personal Protection (hands/feet), Physical Properties, Spills (minor), Storage (storage requirement)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.