Exofin® Mastic Adhesive

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
SDS ID: 100152
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SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Name	:	Exofin® Mastic Adhesive
Product code	:	EMBF; EM80100; EM80101; EM80212; EM81512

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Adhesive to add additional holding strength to surgical tapes, dressing, and bandages
Use of the substance/mixture	:	Medical devices
Restrictions on use	:	For professional use only

1.3. Supplier

Manufacturer
Chemence Medical Inc.
200 Technology Dr
Alpharetta, 30005
T 770-664-6624 - F 678-820-3320
customerservice@chemence.com - www.chemencemedical.com

1.4. Emergency telephone number

Emergency number	:	CHEMTREC® International Emergency number: 703-527-3887 UK Only - IN CASE OF TOXIC OR TRANSPORT EMERGENCY: National Chemical Emergency Centre: Telephone 01865 407333

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing fume, vapors.
P280 - Wear eye protection, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : In use, may form flammable/explosive vapor-air mixture. May cause drowsiness or dizziness.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Ethanol	CAS-No.: 64-17-5	≥ 45 – < 60	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
mastic	CAS-No.: 61789-92-2	≥ 30 – < 45	Not classified
methyl salicylate	CAS-No.: 119-36-8	≥ 1 – < 3	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Chronic 3, H412
Styrax	CAS-No.: 8046-19-3	≥ 0.1 – < 1	Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. Wash contaminated clothing before reuse. Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Get medical advice/attention.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately after ingestion: give lots of water to drink. On ingestion in large quantities: Seek medical advice.

4.2. Most important symptoms and effects (acute and delayed)

Effects on humans	:	Symptoms of overexposure may be narcotic effects
Potential Adverse human health effects and symptoms	:	Repeated excessive exposure may have harmful effects on the liver.
Symptoms/effects after inhalation	:	Irritation of the respiratory tract. Coughing. Moderate narcotic effect, headaches, nausea. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	:	Causes mild skin irritation. Redness.
Symptoms/effects after eye contact	:	Causes eye irritation. Redness. Causes eyes to water / lacrimation.
Symptoms/effects after ingestion	:	Moderate narcotic effect, headaches, nausea. Mental confusion. Drunkenness. If a large quantity has been ingested : Risk of aspiration pneumonia. Accelerated heart action. Depression of the central nervous system.
Most Important Symptoms/Effects	:	Repeated or prolonged exposure to high levels may affect the liver and kidneys.
Chronic symptoms	:	Enlargement/affection of the liver. May cause sensitization of susceptible persons by skin contact.

4.3. Immediate medical attention and special treatment, if necessary

An eyewash station should be available on the premises. . Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).
Unsuitable extinguishing media	:	High volume water jet or water based extinguishing media. Risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard	:	Highly flammable liquid and vapor. May form flammable vapor-air mixture. Heavier than air, vapors may travel long distances along ground, ignite and flash back to source.
Explosion hazard	:	May form flammable/explosive vapor-air mixture.
Reactivity in case of fire	:	No reactivity hazard other than the effects described in sub-sections below.
Hazardous decomposition products in case of fire	:	Combustion products may include the following: carbon oxides (CO, CO2) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO_2 etc.).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Do not approach fire except upwind and only with proper skin and respiratory protection (supplied air only). Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.
Protection during firefighting	:	Wear fire/flame resistant/retardant clothing. Self-contained breathing apparatus.
Other information	:	Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Avoid contact with eyes, skin and clothing. No flames, no sparks. Eliminate all sources of ignition. Prevent liquid from entering sewers, watercourses, and soil.

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Safety glasses.
Emergency procedures	:	Keep upwind. Avoid breathing vapors. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment	:	Use self-contained breathing apparatus and chemically protective clothing. solvent-resistant gloves. Solvent-resistant footwear.
Emergency procedures	:	Ventilate spillage area. Shelter from vapors by keeping upwind. Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Use grounded electrical/mechanical equipment. Use only non-sparking tools.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain the spilled material by bunding.
Methods for cleaning up	:	Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Place spent adsorbent in sealed packages and contact specialist waste disposal contractor.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	In use, may form flammable vapor-air mixture.
Precautions for safe handling	:	Avoid breathing vapors. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with eyes. Wear eye protection. Take off contaminated clothing and wash before reuse.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Store away from direct sunlight or other heat sources. Store in a well-ventilated place. Keep container tightly closed.
Storage conditions	:	Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep in fireproof place. Keep product away from: Strong oxidizing agents, Strong acids, Strong bases.
Incompatible products	:	Strong acids. Strong oxidizing agents. Strong bases.
Incompatible materials	:	Direct sunlight. Heat sources. High temperature. hot surfaces. open flames.
Storage temperature	:	5 – 30 °C Recommended storage temperature
Heat-ignition	:	No flames, no sparks. Eliminate all sources of ignition. No smoking.
Storage area	:	Store away from direct sunlight or other heat sources. Keep in fireproof place.
Packaging materials	:	Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exofin® Mastic Adhesive	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL STEL [ppm]	1000 ppm

Ethanol (64-17-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanol
ACGIH OEL STEL [ppm]	1000 ppm
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl alcohol (Ethanol)
OSHA PEL (TWA) [1]	1900 mg/m³
OSHA PEL (TWA) [2]	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

mastic (61789-92-2)
No additional information available

methyl salicylate (119-36-8)
No additional information available

Styrax (8046-19-3)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Wear recommended personal protective equipment. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Refer to section 7 of the SDS.

Environmental exposure controls : Do not allow to enter drains or water courses.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear protective gloves. eye protection.

Hand protection:				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Disposable gloves	Chloroprene rubber (CR), butyl rubber, Viton® II	2 (> 30 minutes)	>0.15	
Disposable gloves	Nitrile rubber (NBR)	1 (> 10 minutes)	>0.15	

Eye protection:		
Type	**Field of application**	**Characteristics**
Safety glasses	Droplet	With side shields

Skin and body protection:
Wear solvent resistant gloves, lab coat or apron to prevent prolonged or repeated skin contact
Type
Solvent-resistant apron

Respiratory protection:
No respiratory protection needed under normal use conditions. Wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	light green. Liquid.
Color	:	light green
Odor	:	alcohol odor pleasant odor
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	-173 °F @ 1013 hPa
Freezing point	:	No data available
Boiling point	:	172.4 °F @ 1013 hPa
Flash point	:	> 55.4 °F
Relative evaporation rate (butyl acetate=1)	:	≈ 2.4
Relative evaporation rate (ether=1)	:	≈ 8.3
Flammability (solid, gas)	:	No data available
Vapor pressure	:	≈ 57 hPa @20 °C / 68 °F
Relative vapor density at 20 °C	:	≈ 1.6
Particle size	:	Not applicable (liquid)
Relative density	:	0.85 – 0.9
Density	:	0.85 – 0.9 g/m³
Solubility	:	In water, material is partially soluble.
Partition coefficient n-octanol/water (Log Pow)	:	-0.31 estimated value
Auto-ignition temperature	:	685 – 797 °F
Decomposition temperature	:	No data available
Viscosity, kinematic	:	7 mm²/s @25°C / 77°F: Capillary viscometer
Viscosity, dynamic	:	No data available

Explosion limits	:	2.5 – 13.5 vol % Lower explosion limit: ≈ 2.5 vol % Upper explosion limit: ≈ 13.5 vol %
Explosive properties	:	In use, may form flammable/explosive vapor-air mixture.
Oxidizing properties	:	Not oxidising.

9.2. Other information

VOC content	:	55 – 58 %
Other properties	:	Gas/vapor heavier than air at 20°C. Hygroscopic.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Reacts with (some) acids. Reacts with (strong) oxidizers.

10.4. Conditions to avoid

Direct sunlight. Heat sources. High temperature. hot surfaces. open flames.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Combustion products may include the following: carbon oxides (CO, CO2) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO_2 etc.).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met)

Ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg body weight (Experimental value)
LC50 Inhalation - Rat	124.7 mg/l/4h Equivalent to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation.
ATE US (oral)	10470 mg/kg body weight
ATE US (vapors)	124.7 mg/l/4h

Ethanol (64-17-5)	
ATE US (dust, mist)	124.7 mg/l/4h

mastic (61789-92-2)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

methyl salicylate (119-36-8)	
LD50 oral rat	887 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	1060 mg/kg body weight Guinea pig, 95% CL: 873 - 1300 (OECD 401 method)
LD50 dermal rabbit	> 5000 mg/kg OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Experimental value, Skin, 14 day(s)
LC50 Inhalation - Rat	> 0.4 mg/l (OECD 403 method)
ATE US (oral)	887 mg/kg body weight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

Ethanol (64-17-5)	
pH	7

Serious eye damage/irritation : Causes serious eye irritation.

Ethanol (64-17-5)	
pH	7

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified. (Inconclusive data)

Ethanol (64-17-5)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Ethanol (64-17-5)	
LOAEC (inhalation,rat,vapor,90 days)	3200 mg/l/6h/day
NOAEL (subchronic,oral,animal/male,90 days)	1730 mg/kg body weight

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Viscosity, kinematic : 7 mm²/s @25°C / 77°F: Capillary viscometer

Ethanol (64-17-5)	
Viscosity, kinematic	1.082 mm²/s @40°C (104 °F)

methyl salicylate (119-36-8)	
Viscosity, kinematic	1.3 mm²/s @25°C / 77°F (calculated value)

Likely routes of exposure : Dermal.

Effects on humans	:	Symptoms of overexposure may be narcotic effects
Potential Adverse human health effects and symptoms	:	Repeated excessive exposure may have harmful effects on the liver.
Symptoms/effects after inhalation	:	Irritation of the respiratory tract. Coughing. Moderate narcotic effect, headaches, nausea. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	:	Causes mild skin irritation. Redness.
Symptoms/effects after eye contact	:	Causes eye irritation. Redness. Causes eyes to water / lacrimation.
Symptoms/effects after ingestion	:	Moderate narcotic effect, headaches, nausea. Mental confusion. Drunkenness. If a large quantity has been ingested : Risk of aspiration pneumonia. Accelerated heart action. Depression of the central nervous system.
Most Important Symptoms/Effects	:	Repeated or prolonged exposure to high levels may affect the liver and kidneys.
Chronic symptoms	:	Enlargement/affection of the liver. May cause sensitization of susceptible persons by skin contact.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - water	:	In water, material is partially soluble

Ethanol (64-17-5)	
LC50 - Fish [1]	15300 mg/l Test organisms (species): Fathead minnow (Pimephales promelas)
LC50 - Other aquatic organisms [2]	5012 mg/l Ceriodaphnia dubia (Water Flea)
EC50 72h - Algae [1]	275 mg/l (Equivalent or similar to OECD 201, Chlorella vulgaris, Static system, Fresh water, Experimental value, Growth rate)
ErC50 algae	275 mg/l Test organisms (species): Chlorella Vulgaris

methyl salicylate (119-36-8)	
LC50 - Fish [1]	19.8 mg/l Test organisms (species): Fathead minnow (Pimephales promelas), Read-across
EC50 - Crustacea [1]	28 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
LC50 - Fish [2]	> 100 mg/l OECD 203; 96h Danio Rerio (Zebrafish), Flow Through
EC50 72h - Algae [1]	1.6 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	1.1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Styrax (8046-19-3)	
EC50 - Crustacea [1]	≥ 7.8 mg/l Species: Daphnia magna
EC50 72h - Algae [1]	> 0.13 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

Exofin® Mastic Adhesive	
Persistence and degradability	The solvents used in this preparation are readily biodegraded.

Ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O_2/g substance
Chemical oxygen demand (COD)	1.7 g O_2/g substance
ThOD	2.1 g O_2/g substance
BOD (% of ThOD)	0.43

mastic (61789-92-2)	
Persistence and degradability	Biodegradability in water: no data available.

methyl salicylate (119-36-8)	
Persistence and degradability	Readily biodegradable in water.
ThOD	1.37 g O_2/g substance
Ultimate Aerobic Biodegradability Method, Exposure time	days (OECD 301B method, 98.4% Readily biodegradable)

12.3. Bioaccumulative potential

Exofin® Mastic Adhesive	
Partition coefficient n-octanol/water (Log Pow)	-0.31 estimated value
Bioaccumulative potential	Low bioaccumulation potential.

Ethanol (64-17-5)	
BCF - Fish [1]	1 Cyprinus carpio (Common carp)
Partition coefficient n-octanol/water (Log Pow)	-0.31 (Experimental value)
Bioaccumulative potential	Slightly or not bioaccumulative.

mastic (61789-92-2)	
Bioaccumulative potential	No data available.

methyl salicylate (119-36-8)	
Partition coefficient n-octanol/water (Log Pow)	2.55 (Experimental value)
Bioaccumulative potential	Low bioaccumulation potential. (Log Kow < 4).

12.4. Mobility in soil

Exofin® Mastic Adhesive	
Ecology - soil	Contains volatile component(s).

Ethanol (64-17-5)	
Surface tension	22.31 mN/m @20 °C / 68 °F
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.2 Log Koc, Experimental value
Ecology - soil	Highly mobile in soil.

methyl salicylate (119-36-8)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.346 Quantitative structure-activity relationship (QSAR)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose as hazardous waste.

Product/Packaging disposal recommendations : Handle empty containers with care because residual vapors are flammable. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

Additional information : Flammable vapors may accumulate in the container.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
1170	Not applicable	1170	1170
14.2. Proper Shipping Name			
Ethanol (Mixture containing >50% : ; Ethanol)	Not applicable	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) (Mixture containing >50%: ; Ethanol)	Ethanol solution (Mixture containing >50%: ; Ethanol)
14.3. Transport hazard class(es)			
3	Not applicable	3	3
 Not applicable			

DOT	TDG	IMDG	IATA
14.4. Packing group			
II	Not applicable	II	II
14.5. Environmental hazards			
Dangerous for the environment: No	Not applicable	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1170

DOT Special Provisions (49 CFR 172.102) : 24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 4b;150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

TDG

Emergency Response Guide (ERG) Number : 127

IMDG

Transport regulations (IMDG) : Subject to the provisions

Special provision (IMDG) : 144

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS

EmS-No. (Spillage) : S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS

Stowage category (IMDG) : A

Properties and observations (IMDG) : Colourless, volatile liquids.Pure ETHANOL: flashpoint 13°C c.c. Explosive limits: 3.3% to 19% Miscible with water.

IATA

Transport regulations (IATA)	:	Subject to the provisions
PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provision (IATA)	:	A3, A58, A180
ERG code (IATA)	:	3L

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Exofin® Mastic Adhesive	
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Respiratory or skin sensitization Health hazard - Serious eye damage or eye irritation

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Ethanol	64-17-5	Present	Active	
mastic	61789-92-2	Present	Active	
methyl salicylate	119-36-8	Present	Active	
Styrax	8046-19-3	Present	Active	

15.2. International regulations

CANADA

Ethanol (64-17-5)
Listed on the Canadian DSL (Domestic Substances List)

mastic (61789-92-2)
Listed on the Canadian DSL (Domestic Substances List)

methyl salicylate (119-36-8)
Listed on the Canadian DSL (Domestic Substances List)

Styrax (8046-19-3)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Ethanol (64-17-5)
Listed on IARC (International Agency for Research on Cancer) Listed on INSQ (Mexican National Inventory of Chemical Substances)

methyl salicylate (119-36-8)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 09/28/2022

Data sources : Supplier's safety documents. ECHA (European Chemicals Agency). UNECE, http://www.unece.org/.

Full text of H-phrases	
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects

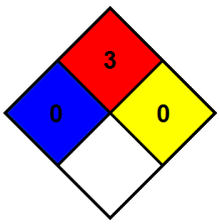
Abbreviations and acronyms	
CAS-No.	Chemical Abstract Service number
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

Abbreviations and acronyms	
DNEL	Derived-No Effect Level
EC-No.	European Community number
EN	European Standard
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative
VOC	Volatile Organic Compounds

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : B - Safety glasses, Gloves

Indication of changes:			
Section	**Changed item**	**Change**	**Comments**
1	Use of the substance/mixture	Modified	
1	Use of the substance/mixture	Added	
1	Restrictions on use	Added	
2.2	Precautionary statements (GHS US)	Modified	
2.3	Other hazards which do not result in classification	Added	
4	First-aid measures general	Modified	
4	First-aid measures after inhalation	Modified	
4	First-aid measures after skin contact	Modified	
4	First-aid measures after ingestion	Modified	
4	Potential Adverse human health effects and symptoms	Added	
4	Symptoms/effects after inhalation	Modified	
4	Symptoms/effects after skin contact	Modified	
4	Symptoms/effects after ingestion	Modified	
4	Most Important Symptoms/Effects	Added	
4	Chronic symptoms	Added	
4	Other medical advice or treatment	Added	
5.1	Suitable extinguishing media	Modified	
5.1	Unsuitable extinguishing media	Added	
5.2	Fire hazard	Modified	
5.2	General measures	Modified	
5.2	Hazardous decomposition products in case of fire	Added	
5.3	Firefighting instructions	Modified	
5.3	Protection during firefighting	Modified	
6	General measures	Modified	
6	Emergency procedures	Modified	
6	Protective equipment	Modified	
6	Emergency procedures	Modified	
6	Environmental precautions	Modified	
6	For containment	Modified	
6	Methods for cleaning up	Modified	
6	Other information	Added	

6	Reference to other sections (8, 13)	Added	
6	Protective equipment	Modified	
7.1	Additional hazards when processed	Modified	
7.1	Precautions for safe handling	Modified	
7.1	Hygiene measures	Modified	
7.2	Technical measures	Modified	
7.2	Storage conditions	Modified	
7.2	Incompatible products	Modified	
7.2	Incompatible materials	Modified	
7.2	Storage temperature	Added	
7.2	Heat-ignition	Added	
7.2	Storage area	Added	
7.2	Packaging materials	Added	
8.2	Appropriate engineering controls	Added	
8.2	Environmental exposure controls	Added	
8.2	Personal protective equipment	Modified	
8.2	Hand protection	Added	Specification details
8.2	Respiratory protection	Modified	
8.2	Eye protection	Added	Specification details
8.2	Skin and body protection	Added	Specification details
9	Appearance	Modified	
9	Odor	Modified	
9	Relative evaporation rate (butyl acetate=1)	Added	
9	Relative evaporation rate (ether=1)	Added	
9	Melting point	Added	
9	Boiling point	Added	
9	Flash point	Modified	Solvent
9	Auto-ignition temperature	Added	Solvent
9	Vapor pressure	Added	
9	Relative vapor density at 20 °C	Added	
9	Density	Added	
9	Solubility	Added	
9	Partition coefficient n-octanol/water (Log Pow)	Added	
9	Viscosity, kinematic	Added	

9	Explosive properties	Added	
9	Oxidizing properties	Added	
9	Explosion limits (vol %)	Added	
9	Lower explosion limit	Added	
9	Upper explosion limit	Added	
9	Particle size	Added	
9	VOC content	Modified	
10	Reactivity	Modified	
10	Chemical stability	Modified	
10	Possibility of hazardous reactions	Modified	
10	Conditions to avoid	Modified	
10	Incompatible materials	Modified	
10	Hazardous decomposition products	Modified	
11	Reason for no classification	Added	
11	Reason for no classification	Added	
12.1	Ecology - general	Added	
12.1	Ecology - water	Added	
12.2	Persistence and degradability	Added	
12.3	Partition coefficient n-octanol/water (Log Pow)	Added	
12.3	Bioaccumulative potential	Added	
12.4	Ecology - soil	Added	
12.5	Other information	Removed	
14	Supplemented N.O.S. Proper Shipping Name (DOT)	Modified	
14	Supplemented N.O.S. Proper Shipping Name (IATA)	Modified	
14	Supplemented N.O.S. Proper Shipping Name (IMDG)	Modified	
15	SARA Section 311/312 Hazard Classes	Added	
15	Regulatory reference	Added	
15	Regulatory reference	Added	
15	State or local regulations	Added	
16	Health	Modified	
16	Personal protection	Added	
16	NFPA health hazard	Modified	
16	Data sources	Added	
16	Abbreviations and acronyms	Added	

Exofin® Mastic Adhesive

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Safety Data Sheet (SDS), USA

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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