

Safety Data Sheet HARSF2-US-SDS

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

Issue date: 04/01/2021 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Trade name : REFACE SPRAYABLE FILLER HARDENER

Product code : HAR/SF UP Number UP0739

Other means of identification : UPOL/SF1, UPOL/SF2

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Coatings and paints, thinners, paint removers

Recommended use : Hardener

1.3. Supplier

U-POL US Inc 108 Commerce Way

Easton, PA 18040 - United States T 1-800-340-7824 - F 1-800-787-5150 technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC - 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2
Organic Peroxide Category D
Highly flammable liquid and vapor
Heating may cause a fire

Skin corrosion/irritation Category 1B Causes severe skin burns and eye damage Specific target organ toxicity — Single exposure, Category May cause drowsiness or dizziness

3, Narcosis

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)







Signal word (GHS US) : Danger

Hazard statements (GHS US) : Highly flammable liquid and vapor

Heating may cause a fire

Causes severe skin burns and eye damage

May cause drowsiness or dizziness

Precautionary statements (GHS US) : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

Keep/Store away from clothing and other combustible materials

Keep container tightly closed. Keep only in original container. Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe vapors, fume, spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area.

Wear face protection, protective clothing, protective gloves.

If swallowed: rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with

water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

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Immediately call a doctor.

Wash contaminated clothing before reuse.

In case of fire: Use dry sand, extinguishing powder, foam to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up. Protect from sunlight.

Store at temperatures not exceeding 30°C / 86°F. Keep cool.

Store away from other materials.

Dispose of contents/container to hazardous or special waste collection point, in accordance

with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

2.4. Unknown acute toxicity (GHS US)

1.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapors))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
ethyl acetate	(CAS-No.) 141-78-6	23 – 43	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
methylethyl ketone peroxide	(CAS-No.) 1338-23-4	5 – 23	Org. Perox. A, H240 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318
ethyl methyl ketone	(CAS-No.) 78-93-3	< 5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

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 : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a

physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Burns. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Heating may cause a fire.

Reactivity : Highly flammable liquid and vapor. Heating may cause a fire.

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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting

: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures

: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe spray, vapors, fume.

6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe vapors, spray, fume.

Hygiene measures

Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

: Ground/bond container and receiving equipment.

Storage conditions

: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from other materials. Protect from sunlight. Keep only in original container. Store locked up.

Incompatible materials

: Combustible materials.

Storage temperature

: ≤ 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethyl acetate (141-78-6)			
ACGIH	Local name	Ethyl acetate	
ACGIH	ACGIH OEL TWA [ppm]	400 ppm	
ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr	
ACGIH	Regulatory reference	ACGIH 2021	
OSHA	OSHA PEL (TWA) [1]	1400 mg/m³	
OSHA	OSHA PEL (TWA) [2]	400 ppm	
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
ethyl methyl ketone (78-93-3)			
ACGIH	Local name	Methyl ethyl ketone (MEK)	
ACGIH	ACGIH OFL TWA [ppm]	200 npm	

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ethyl methyl ketone (78-93-3)			
ACGIH	ACGIH OEL STEL [ppm]	300 ppm	
ACGIH	Remark (ACGIH)	TLV® Basis: URT irr; CNS & PNS impair. Notations: BEI	
ACGIH	Regulatory reference	ACGIH 2021	
OSHA	OSHA PEL (TWA) [1]	590 mg/m³	
OSHA	OSHA PEL (TWA) [2]	200 ppm	
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
methylethyl ketone peroxide (1338-23-4)			
ACGIH	Local name	Methyl ethyl ketone peroxide	
ACGIH	ACGIH OEL Ceiling [ppm]	0.2 ppm	
ACGIH	Remark (ACGIH)	TLV® Basis: Eye & skin irr; liver & kidney dam	
ACGIH	Regulatory reference	ACGIH 2021	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colorless

Odor : characteristic

Odor threshold : No data available

pH : No data available

Melting point : Not applicable

Freezing point : No data available

Boiling point : $> 77 \, ^{\circ}\text{C}$ Flash point : $6 \, ^{\circ}\text{C}$

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Heating may cause a fire.

Vapor pressure : No data available Relative vapor density at 20 °C : No data available

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Relative density : No data available

Density : 1 a/ml Solubility : partly miscible. : No data available Partition coefficient n-octanol/water (Log Pow) : No data available Auto-ignition temperature Decomposition temperature : No data available No data available Viscosity, kinematic $: < 0.5 \text{ mm}^2/\text{s}$: < 0.5 mPa·s Viscosity, dynamic **Explosion limits** : No data available : No data available Explosive properties

9.2. Other information

Oxidizing properties

SADT : 50 °C

As Applied Regulatory VOC : 539 g/l (4.5 lbs/gal)
As Applied Actual VOC : 539 g/l (4.5 lbs/gal)

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor. Heating may cause a fire.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

: No data available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Unknown acute toxicity (GHS US)	1.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapors))

ethyl acetate (141-78-6)	
LD50 oral rat	10200 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	> 20000 mg/kg body weight Animal: rabbit, Animal sex: male
ATE US (oral)	10200 mg/kg body weight

ethyl methyl ketone (78-93-3)	
LD50 oral rat	2193 mg/kg body weight (Equivalent or similar to OECD 423, Rat, Male / female, Readacross, Oral)
LD50 dermal rabbit	> 10 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal)
ATE US (oral)	2193 mg/kg body weight

methylethyl ketone peroxide (1338-23-4)	
LD50 oral rat	1017 mg/kg
LD50 dermal rat	4000 mg/kg

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methylethyl ketone peroxide (1338-23-4	4)
ATE US (oral)	1017 mg/kg body weight
ATE US (dermal)	4000 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Assumed to cause serious eye damage
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
ethyl acetate (141-78-6)	
STOT-single exposure	May cause drowsiness or dizziness.
ethyl methyl ketone (78-93-3)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
ethyl acetate (141-78-6)	
LOAEL (oral,rat,90 days)	3600 mg/kg body weight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
NOAEL (oral,rat,90 days)	900 mg/kg body weight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
Aspiration hazard	: Not classified
Viscosity, kinematic	: < 0.5 mm ² /s
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Burns. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

ethyl acetate (141-78-6)		
LC50 - Fish [1]	230 mg/l Test organisms (species): Pimephales promelas	
EC50 - Crustacea [1]	154 mg/l (48 h, Daphnia magna, Literature)	
NOEC (chronic)	2.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
ethyl methyl ketone (78-93-3)		
LC50 - Fish [1]	2993 mg/l Test organisms (species): Pimephales promelas	
EC50 - Crustacea [1]	308 mg/l Test organisms (species): Daphnia magna	
ErC50 algae	1972 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)	

12.2. Persistence and degradability

REFACE SPRAYABLE FILLER HARDENER		
Persistence and degradability	Not established.	
ethyl acetate (141-78-6)		
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.	
Biochemical oxygen demand (BOD)	0.293 g O₂/g substance	
Chemical oxygen demand (COD)	1.69 g O₂/g substance	
ThOD	1.82 g O₂/g substance	

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ethyl methyl ketone (78-93-3)		
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.	
Biochemical oxygen demand (BOD)	2.03 g O₂/g substance	
Chemical oxygen demand (COD)	2.31 g O₂/g substance	
ThOD	2.44 g O ₂ /g substance	
methylethyl ketone peroxide (1338-23-4)		
Persistence and degradability	Readily biodegradable in water.	
ThOD	1.816 g O₂/g substance	

12.3. Bioaccumulative potential

REFACE SPRAYABLE FILLER HARDENER		
Bioaccumulative potential Not established.		
ethyl acetate (141-78-6)		
BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static system, Experimental value)	
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	
ethyl methyl ketone (78-93-3)		
Partition coefficient n-octanol/water (Log Pow)	0.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
methylethyl ketone peroxide (1338-23-4)		
BCF - Other aquatic organisms [1]	13 (Estimated value)	
Partition coefficient n-octanol/water (Log Pow)	0.914 (Estimated value)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	

12.4. Mobility in soil

ethyl acetate (141-78-6)				
Surface tension	0.024 N/m (20 °C)			
Ecology - soil	Low potential for adsorption in soil.			
ethyl methyl ketone (78-93-3)				
Surface tension	0.024 N/m (20 °C)			
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.53 (log Koc, Calculated value)			
Ecology - soil	Highly mobile in soil. Slightly harmful to plants.			
methylethyl ketone peroxide (1338-23-4)				
Ecology - soil	No (test)data on mobility of the substance available.			

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT) : UN3105 Organic peroxide type D, liquid, 5.2, II

UN-No.(DOT) : UN3105

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Proper Shipping Name (DOT) : Organic peroxide type D, liquid

Class (DOT) : 5.2 - Class 5.2 - Organic Peroxide 49 CFR 173.128

Packing group (DOT) : II - Medium Danger Hazard labels (DOT) : 5.2 - Organic peroxide



DOT Packaging Non Bulk (49 CFR 173.xxx) : 225 DOT Packaging Bulk (49 CFR 173.xxx) : None

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) DOT Quantity Limitations Passenger aircraft/rail : 5 L (49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 10 L

CFR 175.75)

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel

carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger

vessels in which the limiting number of passengers is exceeded.

12 - Keep as cool as reasonably practicable, 25 - Protected from sources of heat, 52 - Stow **DOT Vessel Stowage Other**

"separated from" acids,53 - Stow "separated from" alkaline compounds

Emergency Response Guide (ERG) Number : 145

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport document description (TDG) : UN3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2, II

UN-No. (TDG) : UN3105

Proper Shipping Name (TDG) : ORGANIC PEROXIDE TYPE D, LIQUID TDG Primary Hazard Classes : 5.2 - Class 5.2 - Organic Peroxides

: II - Medium Danger Packing group (TDG)

TDG Special Provisions : 16 - (1) The technical name of at least one of the most dangerous substances that

predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport

prohibits the disclosure of the technical name:

(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;

(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;

(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;

(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or

(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.

(3) Despite subsection (1), the technical name for the following dangerous goods is not

required to be shown on a small means of containment:

(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or

(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, 38 - A person must not handle, offer for transport or transport these dangerous goods in a large means of containment

if they are in direct contact with the large means of containment.

Explosive Limit and Limited Quantity Index : 0.125 L

Passenger Carrying Road Vehicle or Passenger : 5 L

Carrying Railway Vehicle Index Passenger Carrying Ship Index

: Forbidden

Transport by sea

Transport document description (IMDG) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2

UN-No. (IMDG) : 3105

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Proper Shipping Name (IMDG) : ORGANIC PEROXIDE TYPE D, LIQUID

Class (IMDG) : 5.2 - Organic peroxides

Air transport

Transport document description (IATA) : UN 3105 Organic peroxide type d, liquid, 5.2

UN-No. (IATA) : 3105

Proper Shipping Name (IATA) : Organic peroxide type d, liquid Class (IATA) : 5.2 - Organic Peroxides

Not subject to reporting requirements of the United States SARA Section 313

SECTION 15: Regulatory information

15.1. US Federal regulations

ethyl acetate (141-78-6)			
Listed on the United States TSCA (Toxic Substances Control Act) inventory Not subject to reporting requirements of the United States SARA Section 313			
CERCLA RQ	5000 lb		
ethyl methyl ketone (78-93-3)			
Listed on the United States TSCA (Toxic Substances Control Act) inventory Not subject to reporting requirements of the United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)			
Listed on EPA Hazardous Air Pollutant (HAPS)			
CERCLA RQ 5000 lb			
methylethyl ketone peroxide (1338-23-4)			
Listed on the United States TSCA (Toxic Substances Control Act) inventory			

15.2. International regulations

CANADA

CERCLA RQ

ethy	/I ac	etat	e (14	11-78	-6)						
	-		_			 					

10 lb

Listed on the Canadian DSL (Domestic Substances List)

ethyl methyl ketone (78-93-3)

Listed on the Canadian DSL (Domestic Substances List)

methylethyl ketone peroxide (1338-23-4)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Component	State or local regulations		
ethyl acetate(141-78-6)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List		
ethyl methyl ketone(78-93-3)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List		

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Component	State or local regulations
methylethyl ketone peroxide(1338-23-4)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Abbreviations and acronyms:

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	
BLV	Biological limit value	
BOD	Biochemical oxygen demand (BOD)	
COD	Chemical oxygen demand (COD)	
DMEL	Derived Minimal Effect level	
DNEL	Derived-No Effect Level	
EC-No.	European Community number	
EC50	Median effective concentration	
EN	European Standard	
IARC	International Agency for Research on Cancer	
IATA	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	
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	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STP	Sewage treatment plant	
ThOD	Theoretical oxygen demand (ThOD)	
TLM	Median Tolerance Limit	
VOC	Volatile Organic Compounds	
CAS-No.	Chemical Abstract Service number	
N.O.S.	Not Otherwise Specified	
vPvB	Very Persistent and Very Bioaccumulative	
ED	Endocrine disrupting properties	

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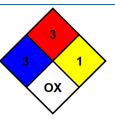
NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

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

temperature conditions.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

: OX - Materials that posses oxidizing properties.



Indication of changes:

NFPA specific hazard

Section	Changed item	Change	Comments
	Precautionary statements (GHS US)	Modified	
	Hazard statements (GHS US)	Modified	
2.1	GHS-US classification	Modified	
9	Viscosity, dynamic	Added	
9	Solubility	Added	
9	Vapor pressure	Added	
9	Density	Added	
9	Flash point	Modified	
9	SADT	Added	

SDS US GHS (GHS HazCom2012)

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