

SAFETY DATA SHEET

SunRestore 112 Part A



1. IDENTIFICATION and COMPANY INFORMATION

Product Name: SunRestore Part A

SDS Number: 300000014503

Product Type: Proprietary Polymer

Product Use: Industrial

Manufacturer, Importer, Supplier: Sundek Products USA, Inc.
805 Avenue H East, Suite 508
Arlington, TX 76001

Telephone: Chemtrec: (800) 424-9300 or (703) 527-3887

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: FLAMMABLE LIQUID AND VAPOR. AVOID EYE CONTACT WITH VAPOR, SPRAY, OR MIST. AVOID SKIN CONTACT. AVOID BREATHING OF VAPORS. DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. WASH EXPOSED AREAS THOROUGHLY WITH SOAP AND WATER. HARMFUL IF SWALLOWED. ALSO HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.

GHS Classification

Eye Irrit. 2B, Flam. Liq. 3, Muta. 1B, Skin Irrit. 2, STOT SE 3 RTI

Symbol(s) of Product



Signal Word

Danger

GHS HAZARD STATEMENTS

Eye Irritation, category 2B	H320	Causes eye irritation.
Flammable Liquid, category 3	H226	Flammable liquid and vapor

Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects. Classified as mutagenic Category 1 if ingredient is present at or above 0.1% Applies to liquids, solids and the substance may also have its own exposure limit. Routes of dependent on ingredient form.
STOT, single exposure, category 3,	H335	May cause respiratory irritation.
Skin Irritation, category 2	H315	Causes skin irritation.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P362	Take off contaminated clothing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to in accordance with local/regional/national/international regulations.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt. %	GHSSymbols	GHSStatements
Vinyl Toluene	25013-15-4	30 - 40	GHS07-GHS08	H304-315-320-335-340

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. FIRST-AID MEASURES



FIRST AID - EYE CONTACT: Hold eyelids apart and immediately flush with plenty of water for 15 minutes. Seek medical advice. Remove contact lenses.

FIRST AID - INGESTION: Rinse mouth with water. Never give anything by mouth to an unconscious person. Obtain medical attention. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, administer CPR until help arrives or the victim starts to breathe on his own. If breathing is difficult, give oxygen. Seek medical attention immediately.

FIRST AID - SKIN CONTACT: Immediately flush with water for at least 15 minutes. Remove contaminated clothing. Seek medical attention immediately. Wash thoroughly after handling.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Suitable	Dry Chemical, CO2, Water Fog/Mist, Foam
Not suitable	Water Jet

SPECIAL FIREFIGHTING PROCEDURES: Wear full protective gear & SCBA.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Container may rupture on heating.

6. ACCIDENTAL RELEASE MEASURES

ENVIRONMENTAL MEASURES: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

PRECAUTIONARY MEASURES: Put on appropriate personal protective equipment (see Section 8). Do not touch or walk through spilled material. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

7. HANDLING AND STORAGE



HANDLING: Flammable liquid. Avoid heat, sparks and open flames. Avoid breathing vapor and contact with eyes, skin and clothing. Do not leave containers open. Avoid repeated or prolonged contact with skin. Empty containers retain product residue. Observe all safety precautions. Do not reuse container.

STORAGE: Keep away from oxidizers, heat or flames. Keep in cool, dry, ventilated storage and in closed containers. Store away from all ignition sources. Ground all containers during transfer. Store in a cool, dry place. Protect from damage. Store away from flame and ignition sources. Keep all containers tightly closed when not in use. Store out of direct sunlight and on an impermeable floor. Do not store with incompatible materials. Store in upright position only.

HYGIENIC PRACTICES: General industrial hygiene practice. Wash hands before eating, drinking, or smoking.

WORK PRACTICES: Put on appropriate personal protective equipment. Wash hands after handling chemicals and before eating, drinking, or smoking. Read and understand entire SDS before handling chemical.

SPECIAL HANDLING PROCEDURES: Put on appropriate personal protective equipment. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Follow US NFPA 30, "Flammable and Combustible Liquids Code", or other national, state and local codes on safe handling of flammable liquids. Train workers in the recognition and prevention of hazards associated with the storage, handling, and transfer of flammable liquids in the plant. Empty containers retain product residue and can be hazardous.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with Occupational Exposure Limits

<u>Chemical Name</u>	<u>ACGIHTLV-</u>	<u>ACGIH-TLV</u>	<u>OSHAPEL-</u>	<u>OSHA</u>
Vinyl Toluene	50 ppm	100 ppm	100 ppm	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection



RESPIRATORY PROTECTION: Use a properly-fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



SKIN PROTECTION: Chemical resistant gloves and chemical goggles should be used to prevent skin and eye contact. Impervious gloves.



EYE PROTECTION: Safety glasses with side-shields. Avoid contact with eyes.



OTHER PROTECTIVE EQUIPMENT: Use good hygiene practices. Wash face and hands before eating, drinking, and smoking. Eye wash and safety showers should be readily available

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Amber.	Physical State:	Viscous liquid.
Odor:	aromatic.	Odor Threshold:	Not Available
Density, g/cm³:	1.160	pH:	Not Available
Freeze Point, °C:	Not Available	Viscosity:	Not Available
Solubility in Water:	Not Available	Partition Coefficient, n-octanol/ water:	Not Available
Decomposition Temp., °C:	Not Available	Flash Point, °C / F°	53 / 127
Boiling Range, °C:	168	Explosive Limits, vol%:	Not Available
Vapor Pressure:	Not Available	Auto-ignition Temp., °C:	Not Available

(See "Other information" Section for abbreviation legend)

10. STABILITY AND REACTIVITY

STABILITY: This material is stable under normal storage and handling conditions.

CONDITIONS TO AVOID: High temperatures, sparks, open flame, and all other sources of ignition. Avoid heat, sparks, flames and other ignition sources.

INCOMPATIBILITY: Keep away from strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: No dangerous reaction known under conditions of normal use.

11. TOXICOLOGICAL INFORMATION



Practical Experiences

EFFECT OF OVEREXPOSURE - EYE CONTACT: Moderate irritation including redness, swelling, pain, tearing and hazy vision. May cause irritation, discomfort, reddening and tearing.

EFFECT OF OVEREXPOSURE - INGESTION: May cause irritation of the respiratory tract and CNS effects such as dizziness, headaches, nausea and narcosis.

EFFECT OF OVEREXPOSURE - INHALATION: Inhalation of high concentrations may cause headache, nausea, and dizziness.

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Prolonged contact may cause irritation and/or redness.

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: No Information

CARCINOGENICITY: No Information

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Contact

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Name according to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
25013-15-4	Vinyl Toluene	2255 mg/kg Rat	4490 mg/kg Rabbit	>3535 mg/l Rat (4 Hours)

N.I. = No Information

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Ecological evaluation of this material has not been performed; however, do not allow the product to be released to the environment without governmental approval/permits. Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS



DISPOSAL METHOD: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, Solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

14. TRANSPORT INFORMATION

SPECIAL TRANSPORT PRECAUTIONS: No Information

International transport regulations

Regulatory Information:	UN/NA Number	Proper Shipping Name	Classes/ *PG	Reportable Quantity (RQ)
CFR	UN1866	RESIN SOLUTION	Class 3 PGIII	
IMO/IMDG	UN1866	RESIN SOLUTION	Class 3 PGIII	
IATA	UN1866	RESIN SOLUTION	Class 3 PGIII	

15. REGULATORY INFORMATION

U.S. Federal Regulations:

CERCLA-SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

U.S. State Regulations:

NEWJERSEY RIGHT-TO-KNOW:

The following hazardous materials are listed.

<u>Chemical Name</u>	<u>CAS-No.</u>
Vinyl Toluene	25013-15-4
Medium Aliphatic Solvent Naphtha (petroleum)	64742-88-7
1,4-Naphthalenedione	130-15-4

PENNSYLVANIA RIGHT-TO-KNOW

The following hazardous ingredients are present:

<u>Chemical Name</u>	<u>CAS-No.</u>
Vinyl Toluene	25013-15-4
1,4-Naphthalenedione	130-15-4

MASSACHUSETTS RIGHT-TO-KNOW:

The following hazardous materials are listed.

<u>Chemical Name</u>	<u>CAS-No.</u>
Vinyl Toluene	25013-15-4
1,4-Naphthalenedione	130-15-4

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: This product contains a chemical known to the state of California to cause Cancer.
No Proposition 65 Carcinogens exist in this product.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a chemical known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: B2,D2A

Chemical Inventories

Australia inventory (AICS)	All components are listed or exempted
Canada inventory (DSL)	All components are listed or exempted
Japan Inventory (ENCSC)	Not Determined
China Inventory (IECSC)	All components are listed or exempted
Korea Inventory (KECI)	All components are listed or exempted
New Zealand (NZIoC)	All components are listed or exempted
Philippines (PICCS)	All components are listed or exempted
United States Inventory (TSCA 8b)	All components are listed or exempted

16. OTHER INFORMATION

Revision Date: 12/8/2015 **Supersedes Date:** **New SDS**
Reason for revision: No Information
Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	2	Flammability:	2	Reactivity:	0	Personal Protection:	N.I.	Chronic Rating:	N.I.
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Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.
H340 May cause genetic defects.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS07



GHS08



Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information provided herein was believed by Sundek Products to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Sundek Products are subject to Sundek Products' terms and conditions of sale. Sundek Products MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Sundek Products except that the product shall conform to Sundek Products specifications. Nothing contained herein constitutes an offer for the sale of any product.

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1. Identification

1.1. Product identifier

Trade name NOROX® MEKP-9

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified Curing agent (polymer technology)

1.3. Details of the supplier of the safety data sheet

Company United Initiators, Inc.
334 Phillips 311 Rd.
Helena, AR 72342-9033
USA

Telephone 870-572-2935

Telefax 870-572-1416

Email address Cs-initiators.nafta@united-in.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC – US & CANADA: 800-424-9300

CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Information : 800-231-2702

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

Flammable liquids	Category 4	H227
Organic peroxides	Type D	H242
Skin corrosion	Category 1B	H314
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 3	H402
Chronic aquatic toxicity	Category 3	H412

2.2. Label elements

Statutory basis Classification according to Regulation 29CFR 1910.1200

Symbol(s)



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Signal word	Danger
Hazard statement	H227 - Combustible liquid H242 - Heating may cause a fire. H314 - Causes severe skin burns and eye damage. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statement: Prevention	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P220 - Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials. P234 - Keep only in original container. P260 - Do not breathe dust or mist. P264 - Wash skin thoroughly after handling. P273 - Avoid release to the environment. P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
Precautionary statement: Reaction	P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER/doctor. P363 - Wash contaminated clothing before reuse. P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish. P391 - Collect spillage.
Precautionary statement: Storage	P403 + P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P411 - Store at temperatures not exceeding 38°C (100°F). P420 - Store away from other materials.
Precautionary statement: Disposal	P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards
 None known.

3. Composition/information on ingredients

³⁵ ₁₇ Methyl ethyl ketone peroxide	32% - 35%	
CAS-No. 1338-23-4		
Flammable liquids		Category 4
Organic peroxides		Type D
Acute toxicity (Oral)		Category 4
Skin corrosion		Category 1B
Serious eye damage		Category 1
³⁵ ₁₇ Dimethyl phthalate	35% - 60%	
CAS-No. 131-11-3		
Remarks	Not a hazardous substance or mixture.	
³⁵ ₁₇ Phlegmatizer	6% - 26%	

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CAS-No. Proprietary	
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2
³⁵/₁₇ Methyl ethyl ketone	0% - 2%
CAS-No. 78-93-3	
Flammable liquids	Category 2
Eye irritation	Category 2A
Specific target organ toxicity - single exposure (Central nervous system)	Category 3
³⁵/₁₇ Hydrogen peroxide	<= 1%
CAS-No. 7722-84-1	
Oxidizing liquids	Category 1
Acute toxicity (Oral)	Category 4
Skin corrosion	Category 1A
Serious eye damage	Category 1
Specific target organ toxicity - single exposure (Respiratory system)	Category 3
Chronic aquatic toxicity	Category 3

Other information

This material is classified as hazardous under OSHA regulations.

4. First aid measures

4.1. Description of first aid measures

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention.

Skin contact

Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Obtain medical attention immediately if symptoms occur. Wash clothing before reuse.

Eye contact

In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms

None known

4.3. Indication of any immediate medical attention and special treatment needed

None known.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Dry Chemical combined with peroxide may reignite fire. Light water additives may be particularly effective at extinguishing peroxide fires.

Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture

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The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

5.3. Advice for firefighters

If dry chemical is used to extinguish a peroxide fire, the extinguished area must be thoroughly wetted down with water to prevent reigniting.

As in any fire, wear self-contained positive-pressure breathing apparatus and full protective gear.

Containers near the source of fire should be cooled with a water spray to prevent contents from reaching decomposition temperature.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Section 8 - Exposure Controls/Personal Protection.) Remove all sources of ignition. Ventilate the area.

6.2. Environmental precautions

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. Methods and material for containment and cleaning up

Dike spill to prevent runoff from entering drains, sewers, streams, etc. Wet spilled material with water and absorb with an inert absorbent material such as perlite, vermiculite, or sand. Sweep up using non-sparking tools and place in a clean polyethylene drum or a polyethylene pail. DO NOT place into a steel container, lined or unlined, as decomposition may occur. Treat any contaminated cardboard packaging as hazardous waste. Wet container with additional water prior to sealing. Use absorbent/absorbent material to solidify liquids. Clean up promptly by sweeping or vacuum. Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions).

7. Handling and storage

7.1. Precautions for safe handling

Rotate stock using the oldest material first. Avoid contact with skin, eyes and clothing. Use PPE as specified in section 8. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks, or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw peroxide onto curing or into raw resin or flues. Keep peroxide in its original container. DO NOT USE NEAR FOOD OR DRINK. Wash thoroughly after handling. Protect from contamination. Keep tightly sealed in original packing. Risk of decomposition. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage

The stability of peroxide formulations we directly related to the shipping and storage temperature history. Cool storage at 80° F (27°C) or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100° F (38°C) and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible material. DO NOT STORE WITH FOOD OR DRINK.

Refer to NFPA 400 Hazardous Materials Code from the National Fire Protection Association for additional storage information.

Further information

Store apart from other dangerous and incompatible substances.

Keep away from direct sunlight.

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Keep containers tightly closed in a cool, well-ventilated place.

8. Exposure controls/personal protection

8.1. Control parameters

$\frac{35}{17}$ Methyl ethyl ketone peroxide		
CAS-No.	1338-23-4	
Control parameters	0.2 ppm	Ceiling Limit Value:(ACGIH)
Control parameters	0.2 ppm 1.5 mg/m3	Ceiling Limit Value:(US CA OEL)
$\frac{35}{17}$ Dimethyl phthalate		
CAS-No.	131-11-3	
Control parameters	5 mg/m3	Time Weighted Average (TWA):(ACGIH)
Control parameters	5 mg/m3	Permissible exposure limit:(OSHA Z1)
Control parameters	5 mg/m3	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)
$\frac{35}{17}$ Methyl ethyl ketone		
CAS-No.	78-93-3	
Control parameters	200 ppm	Time Weighted Average (TWA):(ACGIH)
Control parameters	300 ppm	Short Term Exposure Limit (STEL):(ACGIH)
Control parameters	200 ppm 590 mg/m3	Permissible exposure limit:(OSHA Z1)
Control parameters	200 ppm 590 mg/m3	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)
Control parameters	300 ppm 885 mg/m3	Short Term Exposure Limit (STEL):(US CA OEL)
$\frac{35}{17}$ Hydrogen peroxide		
CAS-No.	7722-84-1	
Control parameters	1 ppm	Time Weighted Average (TWA):(ACGIH)
Control parameters	1 ppm 1.4 mg/m3	Permissible exposure limit:(OSHA Z1)
Control parameters	1 ppm 1.4 mg/m3	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)

8.2. Exposure controls

Engineering measures

Local exhaust and mechanical ventilation recommended.

8.3. Personal protective equipment

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

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Hand protection

Wear protective gloves made of the following materials:
solvent-resistant gloves (butyl-rubber)
nitrile rubber
Neoprene gloves
Skin should be washed after contact.

Eye protection

Use chemical splash goggles or face shield.

Skin and body protection

A safety shower and eye wash fountain should be readily available.
To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures

Do not eat, drink or smoke during use.
Wash hands before breaks and immediately after handling the product.

Protective measures

Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

physical state	liquid
Color	Water-white.
Form	liquid
Odor	slight
Odor Threshold	No data available
pH	not applicable
Melting point/range	no data available
Boiling point/range	not determined
Flash point	> 76 °C (Seta closed cup)
Evaporation rate	not determined
Flammability (solid, gas)	not applicable
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor pressure	no data available
Relative vapor density	> 1
Relative density	1.1
Water solubility	soluble

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Solubility/qualitative no data available

Partition coefficient (n-octanol/water) no data available

Auto ignition temperature no data available

Thermal decomposition > 60 °C

Viscosity, dynamic no data available

Viscosity, kinematic not determined

9.2. Other information

peroxides The substance or mixture is an organic peroxide classified as type D.

SADT SADT > 60 °C

10. Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Contact with incompatible substances can cause disintegration at or below SADT.

10.3. Possibility of hazardous reactions

Stability Stable under recommended storage conditions.

Possibility of hazardous reactions Vapors may form explosive mixtures with air.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.

Exposure to sunlight.

Prolonged storage above 100°F (38°). Storage above SADT. Storage near flammable or combustible material.

10.5. Incompatible materials

Keep away from strong acids, bases, heavy metals, salts, reducing agents and accelerators.

Contaminants (e.g. rust, dust, ash). Combustible materials. Risk of decomposition.

Dimethylaniline, cobalt naphthenate and other promoters, accelerators, reducing agents, or any hot material.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)., Irritant, caustic, flammable, noxious/toxic gases and vapors can develop in the case of fire and decomposition. Acrid smoke and irritating fumes.

11. Toxicological information

11.1. Information on toxicological effects

No toxicological studies are available on the mixture.

carcinogenicity assessment NTP: No component of this product present at levels greater than or equal

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to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Toxicological information on components

Methyl ethyl ketone peroxide

Acute oral toxicity LD50 Oral Rat(male): 1017 mg/kg
Skin irritation causes severe skin burns and eye damage.
Causes burns.
Eye irritation Causes serious eye damage.
Risk of serious damage to eyes.

**Dimethyl
phthalate**

Acute oral toxicity LD50 Oral Rat: 8200 mg/kg
Acute inhalation toxicity LC50 : 10.4 mg/l / 6 h
Assessment: H332: Harmful if inhaled.
Acute dermal toxicity LD50 Dermal Rat: > 12000 mg/kg
Skin irritation No skin irritation
Eye irritation No eye irritation
Sensitization Not sensitizing.

Phlegmatizer

Acute oral toxicity LD50 Oral Rat(female): > 2000 mg/kg
Acute inhalation toxicity LCLo Rat: > 0.12 mg/l / 6 h
Acute dermal toxicity LD50 Dermal Rat(male/female): > 2000 mg/kg
Skin irritation No skin irritation
Eye irritation No eye irritation

Hydrogen peroxide

Acute oral toxicity LD50 Oral Rat (male): 1026 mg/kg
Test substance: Hydrogen peroxide >= 50%
LD50 Oral Rat (female): 693.7 mg/kg
Test substance: Hydrogen peroxide >= 50%

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Acute inhalation toxicity	Assessment:	Harmful if inhaled.
Acute dermal toxicity	LD50 Dermal Rat (male and female) :	> 2000 mg/kg
Skin irritation		corrosive
Eye irritation		corrosive
Sensitization		Not sensitizing.
Assessment of STOT single exposure	Assessment:	May cause respiratory irritation.
Methyl ethyl ketone		
Acute oral toxicity	LD50 Oral Rat:	2737 mg/kg
Acute inhalation toxicity	LC50 Rat:	23500 mg/l / 8 h
Acute dermal toxicity	LD50 Rabbit:	6480 mg/kg
Eye irritation		Irritating to eyes. irritating
Assessment of STOT single exposure	Target Organs: Assessment:	Central nervous system May cause drowsiness or dizziness.
Mutagenicity assessment		This product may cause mutagenic effects.

12. Ecological information

12.1. Toxicity

Toxicity to fish	There is no data available for this product.
Toxicity in aquatic invertebrates	No data is available on the product itself.
Toxicity to algae	No data is available on the product itself.

12.2. Persistence and degradability

Biodegradability	no data available
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12.3. Bio accumulative potential

Bioaccumulation	no data available
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12.4. Mobility in soil

Mobility	No data available
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12.5. Other adverse effects

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Further Information

Avoid release to the environment.

13. Disposal considerations

13.1. Waste treatment methods

Product

Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method of disposal. Contact United Initiators for additional information. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

Uncleaned packaging

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

D.O.T. Road/Rail

- 14.1. UN number: UN 3105
14.2. UN proper shipping name: Organic peroxide type D, liquid(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: II
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: No

Air transport ICAO-TI/IATA-DGR

- 14.1. UN number: UN 3105
14.2. UN proper shipping name: Organic peroxide type D, liquid(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: --
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
IATA-C: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.
IATA-P: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.

Sea transport IMDG-Code/GGVSee (Germany)

- 14.1. UN number: UN 3105
14.2. UN proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes

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EmS: F-J,S-R
"Separated from" acids and alkalis.
Protected from sources of heat.

- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
for transport approval see regulatory information.

15. Regulatory information

US Federal Regulations

OSHA

If listed below, chemical specific standards apply to the product or components:

³⁵₁₇ None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimums level are hazardous air pollutants:

³⁵₁₇ Dimethyl phthalate
CAS-No. 131-11-3

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named Component:

³⁵₁₇ Methyl ethyl ketone peroxide
CAS-No. 1338-23-4
Reportable Quantity 29 lbs

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

³⁵₁₇ Acute Health Hazard
³⁵₁₇ Fire Hazard

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

³⁵₁₇ None listed

Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

³⁵₁₇ None listed

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State Regulations

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

³⁵₁₇ None listed

International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

³⁵ ₁₇	Europe (EINECS/ELINCS)	listed/registered
³⁵ ₁₇	USA (TSCA)	listed/registered
³⁵ ₁₇	Canada (DSL)	listed/registered
³⁵ ₁₇	Australia (AICS)	listed/registered
³⁵ ₁₇	Japan (MITI)	listed/registered
³⁵ ₁₇	Korea (TCCL)	listed/registered
³⁵ ₁₇	Philippines (PICCS)	not listed/registered
³⁵ ₁₇	China	listed/registered
³⁵ ₁₇	New Zealand	not listed/registered

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

Health :	3
Flammability :	2
Physical Hazard :	2

NFPA Ratings

Health :	3
Flammability :	2
Reactivity :	2

16. Other information

Further information

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Legend

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	Advisory Committee on Sustainability
ADI	Acceptable Daily Intake
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bio concentration factor
BOD	Biochemical oxygen demand
c.c.	closed cup
CAO	Cargo Aircraft Only
Carc	Carcinogen
CAS	Chemical Abstract Services
CDN	Canada
CEPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response – Compensation and Liability Act
CFR	Code of Federal Regulations
CMR	carcinogenic-mutagenic-toxic for reproduction
COD	Chemical oxygen demand
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
DOT	Department of Transportation
EC50	half maximal effective concentration
EPA	Environmental Protection Agency
ErC50	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
HCS	Hazard Communication Standard
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO-TI	International Civil Aviation Organization- Technical Instructions
ICCA	International Council of Chemical Association
ID	Identification number
IMDG	International Maritime Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization For Standardization
LC50	50 % Lethal Concentration
LD50	50 % Lethal Dose
L(E)C50	LC50 or EC50
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organization for Economic Cooperation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, bio accumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
RQ	Reportable Quantity
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very persistent, very bio accumulative

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VOC Volatile Organic Compounds
WHMIS Workplace Hazardous Materials Information System
WHO World Health Organization



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