

Enviro-Safe 1234YF ProSeal with Leak Detector

1	PRODUCT AND COMPANY IDENTIFICATION
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Product Identifier: Enviro-Safe 1234YF ProSeal with Leak Detector
SDS Number: 2076
Revision Date: 8/3/2021
Version: 2.0
Product Description: Leak detector and sealant for R1234YF systems

Supplier Details: Enviro-Safe Refrigerants, Inc.
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2	HAZARDS IDENTIFICATION
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Classification of Substance

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

- Physical, Flammable Gases, 1
- Physical, Flammable Liquids, 2
- Physical, Gases Under Pressure, Liquefied Gas
- Health, Acute toxicity, 5 Oral
- Health, Aspiration hazard, 1
- Health, Skin corrosion/irritation, 2
- Health, Respiratory or skin sensitization, 1 Skin
- Health, Specific target organ toxicity - Single exposure, 3
- Health, Reproductive toxicity, 2
- Health, Specific target organ toxicity - Repeated exposure, 2
- Environmental, Hazards to the aquatic environment - Acute, 2

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **DANGER**

GHS Hazard Pictograms:



GHS Hazard Statements:

- H220 - Extremely flammable gas
- H225 - Highly flammable liquid and vapour
- H280 - Contains gas under pressure; may explode if heated
- H303 - May be harmful if swallowed
- H304 - May be fatal if swallowed and enters airways
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H336 - May cause drowsiness or dizziness
- H361 - Suspected of damaging fertility or the unborn child (state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
- H373 - May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
- H401 - Toxic to aquatic life

GHS Precautionary Statements:

- P201 - Obtain special instructions before use.

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- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from heat/sparks/open flames/hot surfaces.
- P233 - Keep container tightly closed.
- 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.
- P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
- P264 - Wash skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves.
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 - IF INHALED: 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.
- P321 - Specific treatment (see supplemental first aid instructions on this label).
- P331 - Do NOT induce vomiting.
- P332 + P313 - If skin irritation occurs: Get medical advice/ attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
- P381 - Eliminate all ignition sources if safe to do so.
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 - Store in a well-ventilated place. Keep cool.
- P405 - Store locked up.
- P410 + P403 - Protect from sunlight. Store in a well-ventilated place.
- P501 - Dispose of contents/ container to an approved waste disposal plant.

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COMPOSITION/INFORMATION ON INGREDIENTS

	Chemical Ingredients:	
CAS#	%	Chemical Name:
74-98-6		Petroleum gases, liquefied
64-17-5		Ethyl alcohol
108-88-3		Toluene
587-98-4		Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt

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FIRST AID MEASURES

- Inhalation:** If symptoms occur, go into open air and ventilate suspected area. Immediately call POISON CENTER or doctor/physician.
- Skin Contact:** If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.
- Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
- Ingestion:** Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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FIRE FIGHTING MEASURES

- Autoignition Temperature:** 674.44°C (1246°F)
- Lower Explosive Limit:** 2.6%
- Upper Explosive Limit:** 9%

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Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: If possible, stop flow of gas. Use water to cool fire-exposed tanks, surroundings and to protect personnel working on shut off. If leak cannot be stopped, evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Extinguishing Media:

Suitable: Water spray, dry power or carbon dioxide can be directed at flame area to reduce fire intensity.

Unsuitable fire extinguisher: Do not extinguish flames unless leak can be stopped.

6	ACCIDENTAL RELEASE MEASURES
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6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray). Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking.

6.1.1. No Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources.

6.1.2. For Emergency Responders

Protective Equipment: Equip clean up crew with proper protection.

Emergency Procedures: Stop Leak if safe to do so. Eliminate ignition sources. Ventilate area.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop leak without risks if possible.

Methods for CLeaning Up: Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection.

7	HANDLING AND STORAGE
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Handling Precautions:

Precautions for Safe Handling: Ensure there is adequate ventilation. Personnel should be trained to regularly inspect equipment such as pumps, hoses and valves. Do not breathe gas. Close valve after each use and when empty. Open valve slowly to avoid pressure shock.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Storage Requirements:

Technical Measures: Comply with applicable regulations. Keep at temperatures below 52°C/125°F.

Storage Conditions: Store in a dry, cool and well-ventilated place. Store locked up. Store away from strong oxidizing agents, chlorine dioxide, excessive heat and/or static discharge.

Incompatible Products: Heat sources. Oxidizing agents.

8	EXPOSURE CONTROLS/PERSONAL PROTECTION
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Engineering Controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment:

Petroleum gases, liquefied cas#:(74-98-6)

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M)

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Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 60 min Material tested: Camatril (KCL 730 / Aldrich Z677442, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Ethyl alcohol cas#:(64-17-5)

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min Material tested: Butoject (KCL 897 / Aldrich Z677647, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 38 min Material tested: Dermatril P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Toluene cas#:(108-88-3)

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M)

Splash contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt cas#:(587-98-4)

Personal protective equipment

Respiratory protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Immersion protection Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 480 min Material tested: Dermatril (Aldrich Z677272, Size M)

Splash protection: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 30 min Material tested: Dermatril (Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Petroleum gases, liquefied cas#:(74-98-6)

Components with workplace control parameters

TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
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Central Nervous System impairment
Cardiac sensitization

TWA 1,000 ppm USA. Occupational Exposure Limits
 1,800 mg/m3 (OSHA) - Table Z-1 Limits for Air Contaminants

The value in mg/m3 is approximate.

TWA 1,000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
 1,800 mg/m3

TWA 1,000 ppm USA. NIOSH Recommended Exposure Limits
 1,800 mg/m3

Ethyl alcohol cas#:(64-17-5)

Components with workplace control parameters

TWA 1,000 ppm USA. ACGIH Threshold Limit Values (TLV)
Upper Respiratory Tract irritation

Confirmed animal carcinogen with unknown relevance to humans

TWA 1,000 ppm USA. Occupational Exposure Limits
 1,900 mg/m3 (OSHA) - Table Z-1 Limits for Air Contaminants

The value in mg/m3 is approximate.

TWA 1,000 ppm USA. NIOSH Recommended
 1,900 mg/m3 Exposure Limits

Toluene cas#:(108-88-3)

Components with workplace control parameters

TWA 100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
 375 mg/m3

STEL 150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
 560 mg/m3

TWA 200 ppm USA. Occupational Exposure Limits (OSHA) - Table Z2Z37.12- 1967

CEIL 300 ppm USA. Occupational Exposure Limits (OSHA) - Table Z2Z37.12- 1967

Peak 500 ppm USA. Occupational Exposure Limits (OSHA) - Table Z2Z37.12- 1967

TWA 20 ppm USA. ACGIH Threshold Limit Values (TLV)

Visual impairment

Female reproductive

Pregnancy loss

2010 Adoption

Substances for which there is a Biological Exposure Index or Indices

(see BEI section)

Not classifiable as a human carcinogen

TWA 100 ppm USA. NIOSH Recommended Exposure Limits
 375 mg/m3

ST 150 ppm USA. NIOSH Recommended Exposure Limits
 560 mg/m3

Benzenesulfonic acid, 3-[4-(phenylamino)phenyl]azo]-, monosodium salt cas#:(587-98-4)

Enviro-Safe 1234YF ProSeal with Leak Detector

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PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	No data available	Odor:	Amine odor
Physical State:	Gas	Solubility:	No data available
Odor Threshold:	No data available	Freezing or Melting Point:	-176°C (-286°F)
Specific Gravity or Density:	0.53	Flash Point:	No data available
Viscosity:	No data available	Vapor Density:	0.53 (water = 1)
Boiling Point:	-37.8°C (-36.1°F)	Autoignition Temperature:	No data available
Partition Coefficient:	No data available	Upper Flammability Limit and Lower Flammability Limit:	9%, 2.6%
Vapor Pressure:	586.05 kPa (85 psi) at 21.1°C (70°F)		
Potentia Hydrogenii:	No data available		
Evaporation Rate:	No data available		
Decompression Temperature:	No data available		

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STABILITY AND REACTIVITY

Reactivity:	Contains gas under pressure; may explode if heated. Vapor may ignite if exposed to static discharge. Reacts with oxidants causing fire and explosion hazard.
Chemical Stability:	Stable under recommended handling and storage conditions.
Conditions to Avoid Identification:	Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks. Static discharge.
Materials to Avoid Identification:	Heat. Strong oxidizers.
Hazardous Decomposition:	Carbon oxides (CO, CO2)
Hazardous Polymerization:	Will not occur.

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TOXICOLOGICAL INFORMATION

Petroleum gases, liquefied cas#:(74-98-6)

Information on toxicological effects

Acute toxicity: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information: RTECS: TX2275000

Dizziness, Drowsiness, Unconsciousness

Ethyl alcohol cas#:(64-17-5)

Information on toxicological effects

Enviro-Safe 1234YF ProSeal with Leak Detector

Acute toxicity:

LD50 Oral - rat - 7,060 mg/kg Remarks: Lungs, Thorax, or Respiration:Other changes.

LC50 Inhalation - rat - 10 h - 20000 ppm

Dermal: no data available

Skin corrosion/irritation: Skin - rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - rabbit Result: Mild eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

Carcinogenicity - mouse - Oral:

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors. Blood:Lymphomas including Hodgkins disease.

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

Reproductive toxicity: no data available

Reproductive toxicity - Human - female - Oral:

Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on Newborn: Drug dependence.

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information: RTECS: KQ6300000

Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Toluene cas#:(108-88-3)

Information on toxicological effects

Acute toxicity:

LD50 Oral - rat - > 5,580 mg/kg

LC50 Inhalation - rat - 4 h - 12,500 - 28,800 mg/m3

LD50 Dermal - rabbit - 12,196 mg/kg

no data available

Skin corrosion/irritation: Skin - rabbit Result: Skin irritation - 24 h

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: rat Liver DNA damage

Carcinogenicity:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Toluene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

Reproductive toxicity: Damage to fetus possible Suspected human reproductive toxicant

Reproductive toxicity - rat - Inhalation:

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).

Experiments have shown reproductive toxicity effects in male and female laboratory animals.

Developmental Toxicity - rat - Oral:

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information: RTECS: XS5250000

Lung irritation, chest pain, pulmonary edema, Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals.

Stomach - Irregularities - Based on Human Evidence

Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt cas#:(587-98-4)

Enviro-Safe 1234YF ProSeal with Leak Detector

Information on toxicological effects

Acute toxicity:

Oral LD50 LD50 Oral - rat - 5,000 mg/kg

Inhalation LC50 no data available

Dermal LD50

Other information on acute toxicity LD50 Intraperitoneal - mouse - 1,000 mg/kg

LD50 Intravenous - mouse - 200 mg/kg

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: May cause sensitization by skin contact.

Germ cell mutagenicity: Genotoxicity in vitro - Human - lymphocyte Mutation in mammalian somatic cells.

Genotoxicity in vitro - Human - leukocyte Cytogenetic analysis

Genotoxicity in vivo - mouse - Oral

Genotoxicity in vivo - mouse - Intraperitoneal Sister chromatid exchange

Carcinogenicity:

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

Reproductive toxicity: Reproductive toxicity - rat - male:

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Synergistic effects: no data available

Additional Information: RTECS: DB7329500

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ECOLOGICAL INFORMATION

Petroleum gases, liquefied cas#:(74-98-6)

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Ethyl alcohol cas#:(64-17-5)

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Toluene cas#:(108-88-3)

Information on ecological effects

Enviro-Safe 1234YF ProSeal with Leak Detector

Toxicity:

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 7.63 mg/l - 96 h.

NOEC - Pimephales promelas (fathead minnow) - 5.44 mg/l - 7 d

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 8.00 mg/l - 24 h.
other aquatic invertebrates

Immobilization EC50 - Daphnia magna (Water flea) - 6 mg/l - 48 h

Toxicity to algae EC50 - Chlorella vulgaris (Fresh water algae) - 245.00 mg/l - 24 h.

EC50 - Pseudokirchneriella subcapitata (green algae) - 10.00 mg/l - 24 h

Persistence and degradability: Biodegradability Result: - Readily biodegradable.

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt cas#:(587-98-4)

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

13 DISPOSAL CONSIDERATIONS

Petroleum gases, liquefied cas#:(74-98-6)

Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

Ethyl alcohol cas#:(64-17-5)

Waste treatment methods

Product: Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

Toluene cas#:(108-88-3)

Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt cas#:(587-98-4)

Waste treatment methods

Enviro-Safe 1234YF ProSeal with Leak Detector

Product: Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

14	TRANSPORT INFORMATION
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ID8000, Consumer commodity, 9

US DOT:

Proper Shipping Name: Consumer Commodity, ORM-D

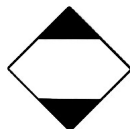
IATA & IMDG:

Proper Shipping Name: Petroleum gases, liquefied

Hazard Class: 2.1

Identification Number: UN1075

Label Codes: 2.1



15	REGULATORY INFORMATION
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[%] RQ (CAS#) Substance - Reg Codes

[--%] Petroleum gases, liquefied (74-98-6) MASS, NJHS, OSHAWAC, PA, TSCA, TXAIR

[--%] Ethyl alcohol (64-17-5) MASS, OSHAWAC, PA, TSCA, TXAIR

[--%] RQ(1000LBS), Toluene (108-88-3) CERCLA, CSWHS, EPCRAWPC, HAP, MASS, NJHS, OSHAWAC, PA, PRIPOL, PROP65, SARA313, TOXICPOL, TOXICRCRA, TSCA, TXAIR, TXHWL

[--%] Benzenesulfonic acid, 3-[[4-(phenylamino)phenyl]azo]-, monosodium salt (587-98-4) TSCA



WARNING

This product can expose you to chemicals including Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

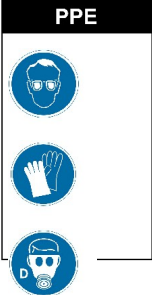
Regulatory Code Legend

- RQ = Reportable Quantity
- MASS = MA Massachusetts Hazardous Substances List
- NJHS = NJ Right-to-Know Hazardous Substances
- OSHA WAC = OSHA Workplace Air Contaminants
- PA = PA Right-To-Know List of Hazardous Substances
- TSCA = Toxic Substances Control Act
- TXAIR = TX Air Contaminants with Health Effects Screening Level
- CERCLA = Superfund clean up substance
- CSWHS = Clean Water Act Hazardous substances
- EPCRAWPC = EPCRA Water Priority Chemicals
- HAP = Hazardous Air Pollutants
- PRIPOL = Clean Water Act Priority Pollutants
- PROP65 = CA Prop 65
- SARA313 = SARA 313 Title III Toxic Chemicals
- TOXICPOL = Clean Water Act Toxic Pollutants
- TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
- TXHWL = TX Hazardous Waste List

Enviro-Safe 1234YF ProSeal with Leak Detector

16 OTHER INFORMATION

HMIS III: Health = , Fire = 4, Physical Hazard =
HMIS PPE: E - Safety Glasses, Gloves, Dust Respirator

HMIS	PPE
HEALTH <input type="checkbox"/>	
FLAMMABILITY <input type="checkbox"/>	
PHYSICAL HAZARD <input type="checkbox"/>	
PERSONAL PROTECTION <input type="checkbox"/>	

4

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Disclaimer: Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

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