



SAFETY DATA SHEET

Quik-Shield A

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DOC ID: SWD-SDS-PMG-040

REV. 00 EFF. DATE: 08/15/19

APPROVAL: MGMT. REP. ON FILE

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: QS A
Product Name: Quik-Shield A
Company Name: SWD URETHANE
539 S. Drew St.
Mesa, AZ 85210,
Web site address: www.swdurethane.com
Emergency Contact: CHEMTREC
(800) 424-9300

2. HAZARDS IDENTIFICATION

Acute Toxicity: Oral, Category 5
Skin Corrosion/Irritation, Category 2
Skin Sensitization, Category 1
Serious Eye Damage/Eye Irritation, Category 2B
Acute Toxicity: Inhalation, Category 4
Respiratory Sensitization, Category 1
Carcinogenicity, Category 2



GHS Signal Word: Danger

GHS Hazard Phrases: H303 - May be harmful if swallowed.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H320 - Causes eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 - Suspected of causing cancer .
H401 - Toxic to aquatic life.

GHS Precaution Phrases: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - Wear respiratory protection .
P285 - In case of inadequate ventilation wear respiratory protection.

GHS Response Phrases: P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P341 - If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313 - IF exposed or concerned: Get medical attention/advice.
P332+313 - If skin irritation occurs, get medical advice/attention.
P337+313 - If eye irritation persists, get medical advice/attention.



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GHS Storage and Disposal Phrases:	P342+311 - If experiencing respiratory symptoms call a POISON CENTER or doctor/physician. P362 - Take off contaminated clothing and wash before re-use. P405 - Store locked up.
Inhalation:	Causes respiratory tract irritation.
Skin Contact:	May be harmful if absorbed through the skin. Causes skin irritation.
Eye Contact:	Causes eye irritation.
Ingestion:	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Ingredients/Components	Concentration
9016-87-9	Polymeric diphenylmethane diisocyanate {Isocyanic acid, Poly	0.0 -100.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	
In Case of Inhalation:	If breathed in, move person into fresh air. If not breathing give artificial respiration.
In Case of Skin Contact:	Wash off with soap and plenty of water. Consult a physician.
In Case of Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
In Case of Ingestion:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Signs and Symptoms Of Exposure:	Cough, Shortness of breath, Headache. Nausea. Vomiting, Pulmonary edema. Effects may be delayed.
Note to Physician:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

5. FIRE FIGHTING MEASURES

Flash Pt:	> 150.00 C	Method Used: Closed Cup
Explosive Limits:	LEL:	UEL:
Autoignition Pt:	NA	
Suitable Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.	
Fire Fighting Instructions:	Wear self contained breathing apparatus for fire fighting if necessary.	
Flammable Properties and Hazards:		
Hazardous Combustion Products:		

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:	Personal precautions. Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Environmental precautions. Do not let product enter drains. Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.
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7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Precautions To Be Taken in Storing: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 15 - 38 deg.C. Store under inert gas. Moisture sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
9016-87-9	Polymeric diphenylmethane diisocyanate {Isocyanic acid, Poly			
Respiratory Equipment (Specify Type):	When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH positive-pressure, supplied air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and HEPA (P100) particulate filter may be used under certain conditions when the cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134).			
Eye Protection:	Face shield and safety glasses.			
Protective Gloves:	Handle with gloves.			
Other Protective Clothing:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.			
Engineering Controls (Ventilation etc.):				
Work/Hygienic/Maintenance Practices:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Slightly. Musty.

pH:

Melting Point: 42.00 C - 45.00 C

Boiling Point: 200.00 C

Flash Pt: > 150.00 C Method Used: Closed Cup

Evaporation Rate:

Flammability (solid, gas):

Explosive Limits: LEL: UEL:

Vapor Pressure (vs. Air or mm Hg): 1

Vapor Density (vs. Air = 1):

Specific Gravity (Water = 1):

Density: 1.18 G/CM3

Solubility in Water:



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Octanol/Water Partition**Coefficient:****Autoignition Pt:** NA**Decomposition Temperature:****Viscosity:**

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]**Conditions To Avoid -** Contact with moisture, other materials that react with isocyanates, or temperatures above
Instability: 350 °F (177 °C), may cause polymerization.**Incompatibility - Materials To** Water. Amines, Strong bases, Alcohols.
Avoid:**Hazardous Decomposition or** formed under fire conditions. Carbon oxides,
Byproducts: nitrogen oxides (NOx).**Possibility of Hazardous** Will occur [] Will not occur [X]
Reactions:**Conditions To Avoid -****Hazardous Reactions:**

11. TOXICOLOGICAL INFORMATION

Toxicological Information: CAS# 9016-87-9:
Not reported., LC50, Not reported., Rat, 490.0 MG/M3.
Results:
Behavioral: Somnolence (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.
- National Technical Information Service, Vol/p/yr: OTS05, 6728Not reported., LD50, Dermal, Rat, 490.0 MG/L.
Results:
Behavioral: Somnolence (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.Not reported., LC50, Not reported., Rat, 490.0 MG/M3.
Results:
Kidney, Ureter, Bladder: Renal function tests depressed.
Blood: Other changes.**Irritation or Corrosion:** Serious eye damage/eye irritation:
Eyes - rabbit - Moderate eye irritation.**Carcinogenicity/Other** Carcinogenicity.
Information: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.Limited evidence of carcinogenicity in animal studies.
IARC: Group 3: Not classifiable as to its carcinogenicity to humans 3.
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.



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CAS #	Ingredients/Components	NTP	IARC	ACGIH	OSHA
9016-87-9	Polymeric diphenylmethane diisocyanate (Isocyanic acid, Poly		3		

12. ECOLOGICAL INFORMATION

Persistence and No data available.

Degradability:

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Product.
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging.
Dispose of as unused product.

14. TRANSPORT INFORMATION

Additional Transport Information: Not regulated except when shipped in bulk. Bulk containers (>9 000 lbs) must be transported as: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate), Class 9, UN3082, PG III, RQ.

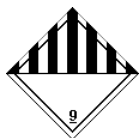
LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Other regulated substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)

DOT Hazard Class: 9 CLASS 9

UN/NA Number: NA3082

Packing Group: III



LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.

UN Number: 3082

Hazard Class: 9 - CLASS 9

Packing Group: III

TDG Classification:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.



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15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Ingredients/Components	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
9016-87-9	Polymeric diphenylmethane diisocyanate {Isocyanic acid, Poly	No	No	Yes-Cat. N120

CAS # Ingredients/Components

9016-87-9 Polymeric diphenylmethane diisocyanate
{Isocyanic acid, Poly

Other US EPA or State Lists

CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes -
Inventory, 8C, 8D TERM; CA PROP.65: No; CA TAC, Title 8:
No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No;
NJ EHS: Yes - Cat.; NY Part 597: No; PA HSL: No; SC TAP:
No; WI Air: No

CAS # Ingredients/Components

9016-87-9 Polymeric diphenylmethane diisocyanate
{Isocyanic acid, Poly

International Regulatory Lists

Canadian DSL: Yes; Canadian NDSL: No

Regulatory Information:

This product contains chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372.

Incipient fire responders should wear eye protection. Firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

Incipient fire responders should wear eye protection. Firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

16. OTHER INFORMATION

Revision Date: 12/12/2018

Additional Information About This Product:

Company Policy or

Disclaimer:

While the information and recommendations in this publication are given to the best of our knowledge, and information at the date of publication, nothing herein is to be construed as a warranty, expressed or otherwise. In all cases, it is the responsibility of the user to determine the applicability of such information, and recommendations or the suitability of any product for its own particular purpose.

The product may present hazards and should be used with caution. While certain hazards are described in this Safety Data Sheet, no guarantee is made that these are the only hazards that exist. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED SWD EMPLOYEE SHALL PROVIDE, OR MAKE AVAILABLE, DATA SHEETS FOR SWD PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION



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THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF SWD. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET OR QUESTIONS REGARDING THIS DATA SHEET SHOULD BE DIRECTED TO SWD AT 800-828-1394.



SAFETY DATA SHEET

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REV. 00 EFF. DATE: 09/01/19

APPROVAL: MGMT. REP. ON FILE

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE

- 1.1 Product Code:** QS 450 B
Product Name: Quik-Shield 450 B
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
- 1.3 Details of the Supplier of the Safety Data Sheet:**
- Company Name:** SWD URETHANE
539 S. Drew St.
Mesa, AZ 85210,
Web site address: www.swdurethane.com
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC
(800) 424-9300

SECTION 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**
Acute Toxicity: Oral, Category 4
Acute Toxicity: Skin, Category 5
Skin Corrosion/Irritation, Category 3
Serious Eye Damage/Eye Irritation, Category 2B
Aquatic Toxicity (Acute), Category 3
- 2.1.2 Classification according to Directive 1999/45/EC:**
Xn: Harmful
F: Highly Flammable
Risk Phrases: R11, R20, R52/53
For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



GHS Signal Word: Warning

GHS Hazard Phrases:

H302 - Harmful if swallowed.
H313 - May be harmful in contact with skin.
H316 - Causes mild skin irritation.
H320 - Causes eye irritation.
H402 - Harmful to aquatic life.



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GHS Precaution Phrases:

P264 - Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P273 - Avoid release to the environment.

GHS Response Phrases:

No phrases apply.

GHS Storage and Disposal Phrases:

No phrases apply.

2.2.2 Labeling according to Directive 1999/45/EC:**Xn****F****2.3 Adverse Human Health****Effects and Symptoms:**

- 2.3.1 Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Eye irritation, vertigo, and nausea were reported in humans exposed at 2200 ppm.
- 2.3.2 Skin Contact:** May be harmful if absorbed through the skin. Causes skin irritation. Causes moderate skin irritation. May cause dermatitis.
- 2.3.3 Eye Contact:** Causes eye irritation. Causes moderate eye irritation.
- 2.3.4 Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	0.0 -13.0 %	NA NA	No phrases apply. Eye Damage 2A: H319
NA	Halogenated Phosphate	7.0 -13.0 %	NA NA	No phrases apply. Acute Tox.(O) 4: H302
NA	Halogenated polyester	< 7.0 %	NA NA	No phrases apply. Aquatic (C) 3: H412
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	1.0 -3.0 %	205-860-2 602-026-00-3	F;Xn; R11-20-52/53 Flam. Liq. 2: H225 Acute Tox.(I) 4: H332 Aquatic (C) 3: H412



SECTION 4. FIRST AID MEASURES

4.1 Description of First Aid

Measures:

In Case of Inhalation: If breathed in, move person into fresh air. If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical aid.

In Case of Skin Contact: Wash off with soap and plenty of water. Consult a physician. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

In Case of Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

In Case of Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. Get medical aid.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Note for the Doctor:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Treat symptomatically and supportively.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Suitable Extinguishing Media:

Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

5.2 Flammable Properties and Hazards:

No data available.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions:

Wear self contained breathing apparatus for fire fighting if necessary. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form explosive mixtures with air. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Fire or excessive heat may result in violent rupture of the container due to bulk polymerization. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Protective Precautions,

No data available.

Protective Equipment and Emergency Procedures:

6.2 Environmental Precautions:

No data available.

6.3 Methods and Material For Containment and Cleaning Up:

Personal precautions.
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
Environmental precautions.
Do not let product enter drains.



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Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool.

SECTION 7. HANDLING AND STORAGE

- 7.1 Precautions To Be Taken in Handling:** Avoid inhalation of vapor or mist. Normal measures for preventive fire protection. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Pure vapor will be uninhibited and may polymerize in vents or other confined spaces.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed in a dry and well-ventilated place. Keep away from sources of ignition. Store in a tightly closed container. Flammables-area. Store protected from light and air.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	No data.	No data.	No data.
NA	Halogenated Phosphate	No data.	No data.	No data.
NA	Halogenated polyester	No data.	No data.	No data.
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	No data.	No data.	No data.
NA	Halogenated Phosphate	No data.	No data.	No data.
NA	Halogenated polyester	No data.	No data.	No data.
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	No data.	TLV: 200 ppm	No data.

8.2 Exposure Controls:

- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

8.2.2 Personal protection equipment:

- Eye Protection:** Face shield and safety glasses. Wear chemical splash goggles.
- Protective Gloves:** Handle with gloves. Wear appropriate protective gloves to prevent skin exposure.
- Other Protective Clothing:** Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear appropriate protective clothing to prevent skin exposure.



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Respiratory Equipment (Specify Type): 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). Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
No data available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical States: ☐ Gas ☒ Liquid ☐ Solid
Appearance and Odor: Viscous.
Musty.
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information

Percent Volatile: No data.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available.
10.2 Stability: Unstable ☐ Stable ☒
10.3 Conditions To Avoid - Hazardous Reactions: No data available.
Possibility of Hazardous Reactions: Will occur ☐ Will not occur ☒
10.4 Conditions To Avoid - Instability: No data available.
Light, ignition sources, Exposure to air.
10.5 Incompatibility - Materials To Avoid: Strong oxidizing agents, Strong bases, Copper.
10.6 Hazardous Decomposition or Byproducts: formed under fire conditions. Carbon oxides,
Phosphorous oxides, Hydrogen chloride gas,
Thermal decomposition 244 °C Hydrogen chloride, phosgene, Carbon monoxide.



SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on

Toxicological Effects:

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: Mutagenicity: Neurotoxicity: Other Studies:

CAS# NA:

Acute toxicity, LD50, Oral, Rat, 3600. MG/KG.

Results:

Behavioral: Somnolence (general depressed activity).

Behavioral: Tremor.

Lungs, Thorax, or Respiration: Other changes.

- National Technical Information Service, Vol/p/yr: OTS05, 7713

Acute toxicity, LD50, Intravenous, Mouse, 56.00 MG/KG.

Results:

Behavioral: Food intake (animal).

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

- U.S. Army Armament Research & Development Command, Chemical Systems Laboratory, NIOSH Exchange Chemicals., Aberdeen Proving Ground., Aberdeen Proving Ground, MD 21010, Vol/p/yr: NX#, 5768

Skin corrosion/irritation, Skin sensitization, Skin, Rabbit, 0.000 , Mild.

Results:

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation.

Behavioral: Tremor.

Lungs, Thorax, or Respiration: Cyanosis.

CAS# 156-60-5:

Reproductive Effects: TCMo, Inhalation, Rat, 6000. PPM, 6 H, female 7-16 day(s) after conception.

Results:

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

- Fundamental and Applied Toxicology., Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 20,225, 1993

Reproductive Effects: TCMo, Inhalation, Rat, 12000. PPM, 6 H, female 7-16 day(s) after conception.

Results:

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

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

- Fundamental and Applied Toxicology., Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 20,225, 1993

Mutagenicity: Mutation test: Mutation in microorganisms., 50.00 UG/PLAT, Bacteria - Salmonella typhimurium.,

Results:

Behavioral: Sleep.

Behavioral: Hallucinations, distorted perceptions.



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- Toxicological and Environmental Chemistry., Gordon & Breach Science Pub. Inc., New York, NY, Vol/p/yr: 15,101, 1987

Mutagenicity:, Gene conversion and mitotic recombination., 80.00 MMOL/L, *Saccharomyces cerevisiae*.

Results:

Behavioral: Coma.

Lungs, Thorax, or Respiration:Dyspnea.

Nutritional and Gross Metabolic:Changes in:Metabolic acidosis.

- Teratogenesis, Carcinogenesis, and Mutagenesis., Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003, Vol/p/yr: 4,365, 1984

Mutagenicity:, Mutation test: DNA damage., 22.00 MMOL/L, *Saccharomyces cerevisiae*.

Results:

Behavioral: Coma.

Vascular: BP lowering not characterized in autonomic section.

Nutritional and Gross Metabolic:Changes in:Metabolic acidosis.

- Mutation Research., Elsevier Science Pub. B.V., POB 211, 1000 AE, Amsterdam Netherlands, Vol/p/yr: 206,209, 1988

Mutagenicity:, Sex chromosome loss and nondisjunction, 51500. UMOL/L, *Saccharomyces cerevisiae*.

Results:

Gastrointestinal:Nausea or vomiting.

- Mutation Research., Elsevier Science Pub. B.V., POB 211, 1000 AE, Amsterdam Netherlands, Vol/p/yr: 206,209, 1988

Mutagenicity:, Sex chromosome loss and nondisjunction, Species: Hamster, 6500. UMOL/L, Cell Type: lung..

Results:

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes.

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other.

Lungs, Thorax, or Respiration:Other changes.

- Mutation Research., Elsevier Science Pub. B.V., POB 211, 1000 AE, Amsterdam Netherlands, Vol/p/yr: 182,135, 1987

Other Studies:, TDLo, Oral, Rat, 113.0 GM/KG, 90 D.

Results:

Kidney, Ureter, Bladder: Changes in bladder weight.

- Journal of the American College of Toxicology., Mary Ann Liebert, Inc., New York, NY, Vol/p/yr: 6(4),471, 1987

Other Studies:, TCLo, Inhalation, Rat, 200.0 PPM, 8 W.

Results:

Lungs, Thorax, or Respiration:Other changes.

Liver: Other changes.

Endocrine: Changes in endocrine weight (unspecified).

- Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr: 7(2),141, 1977



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Acute toxicity, TCLO, Inhalation, Human, 4800. MG/M3, 10 M.

Results:

Behavioral: Sleep.

Behavioral: Hallucinations, distorted perceptions.

- Archiv fuer Hygiene und Bakteriologie., For publisher information, see ZHPMAT,
Munich Fed. Rep. Ger., Vol/p/yr: 116,131, 1936

Acute toxicity, LD50, Oral, Rat, 1235. MG/KG.

Results:

Cardiac:Other changes.

Lungs, Thorax, or Respiration:Other changes.

Liver: Fatty liver degeneration.

- Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr:
7,141, 1977

Acute toxicity, LD50, Intraperitoneal, Rat, 7411. MG/KG.

Results:

Cardiac:Other changes.

Lungs, Thorax, or Respiration:Other changes.

Liver: Fatty liver degeneration.

- Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr:
7,141, 1977

Acute toxicity, LD50, Oral, Mouse, 2122. MG/KG.

Results:

Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Somnolence (general depressed activity).

Behavioral: Ataxia.

- Drug and Chemical Toxicology., Marcel Dekker, 270 Madison Ave., New York, NY
10016, Vol/p/yr: 8,373, 1985

Acute toxicity, LCLO, Inhalation, Mouse, 75.00 GM/M3, 2 H.

Results:

Behavioral: General anesthetic.

Behavioral: Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration:Dyspnea.

- Archiv fuer Hygiene und Bakteriologie., For publisher information, see ZHPMAT,
Munich Fed. Rep. Ger., Vol/p/yr: 116,131, 1936

Acute toxicity, LD50, Intraperitoneal, Mouse, 3952. MG/KG.

Results:

Behavioral: General anesthetic.

Behavioral: Convulsions or effect on seizure threshold.

Gastrointestinal:Nausea or vomiting.

- Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr:
7,141, 1977

Acute toxicity, LCLO, Inhalation, Species: Cat, 43.00 GM/M3, 6 H.

Results:



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Behavioral: General anesthetic.

Behavioral: Convulsions or effect on seizure threshold.

Gastrointestinal: Nausea or vomiting.

- Archiv fuer Hygiene und Bakteriologie., For publisher information, see ZHPMAT, Munich Fed. Rep. Ger., Vol/p/yr: 116,131, 1936

Acute toxicity, LD50, Skin, Species: Rabbit, > 5.000 GM/KG.

Results:

Skin and Appendages: Skin: After systemic exposure: Dermatitis, irritative.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

- Acute Toxicity Data. Journal of the American College of Toxicology, Part B., Mary Ann Liebert, Inc., 1651 Third Ave., New York, NY 10128, Vol/p/yr: 1,10, 1990

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H.

Results:

Effects on Newborn: Growth statistics (e.g., reduced weight gain).

- Acute Toxicity Data. Journal of the American College of Toxicology, Part B., Mary Ann Liebert, Inc., 1651 Third Ave., New York, NY 10128, Vol/p/yr: 1,11, 1990

Standard Draize Test, Eyes, Species: Rabbit, 10.00 MG.

Results:

Behavioral: Sleep.

Behavioral: Hallucinations, distorted perceptions.

- Acute Toxicity Data. Journal of the American College of Toxicology, Part B., Mary Ann Liebert, Inc., 1651 Third Ave., New York, NY 10128, Vol/p/yr: 1,11, 1990

Irritation or Corrosion: Skin - rabbit - Mild skin irritation - 24 h.

Serious eye damage/eye irritation:

Eyes - rabbit - Mild eye irritation.

Carcinogenicity/Other Carcinogenicity.

Information:

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. CAS# 156-60-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	n.a.	n.a.	n.a.	n.a.
NA	Halogenated Phosphate	n.a.	n.a.	n.a.	n.a.
NA	Halogenated polyester	n.a.	n.a.	n.a.	n.a.
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	n.a.	n.a.	n.a.	n.a.



SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity:** No data available.
- 12.2 Persistence and Degradability:** No data available.
- 12.3 Bioaccumulative Potential:** No data available.
- 12.4 Mobility in Soil:** No data available.
- 12.5 Results of PBT and vPvB assessment:** No data available.
- 12.6 Other adverse effects:** No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

- 13.1 Waste Disposal Method:** Product.
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.
- Contaminated packaging.
Dispose of as unused product. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. RCRA P-Series: None listed. RCRA U-Series:
CAS# 156-60-5: waste number U079.

SECTION 14. TRANSPORT INFORMATION

GHS Classification: Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed
Acute Toxicity: Skin, Category 5 - Warning! May be harmful in contact with skin
Skin Corrosion/Irritation, Category 3 - Warning! Causes mild skin irritation
Serious Eye Damage/Eye Irritation, Category 2B - Warning! Causes eye irritation
Aquatic Toxicity (Acute), Category 3 - Harmful to aquatic life

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:

14.1 LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.
UN Number:
Hazard Class:

TDG Classification:

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:
UN Number:
Hazard Class:

14.2 MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.



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14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

SECTION 15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	No	No	No
NA	Halogenated Phosphate	No	No	No
NA	Halogenated polyester	No	No	No
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	No	Yes 1000 LB	No

CAS #	Hazardous Components (Chemical Name)	Canadian NPRI	Canadian IDL	Canadian DSL
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	No	No	Yes
NA	Halogenated Phosphate	No	No	Yes
NA	Halogenated polyester	No	No	Yes
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	No	No	Yes

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
NA	Halogenated Phosphate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8D TERM; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
NA	Halogenated polyester	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	CAA HAP,ODC: No; CWA NPDES: Yes; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: Part 5; NC TAP: No; NJ EHS: No; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: No; WI Air: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
460-73-1	1,1,1,3,3-Pentafluoropropane {HFC-245fa}	
NA	Halogenated Phosphate	
NA	Halogenated polyester	
156-60-5	Trans-1,2-Dichloroethylene {1,2-trans-Dichloroethylene; Ethene, 1,2-dichloro-, (E)-}	



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Canadian WHMIS Classification:



CLASS B, DIVISION 2: Flammable Liquids

CLASS D, DIVISION 2, SUBDIVISION B: Toxic Materials (Mutagenicity, skin sensitization, irritation, etc.)

European Community Hazard Symbol codes:



Xn

F

European Community Risk and Safety Phrases:

R11	Highly flammable.
R20	Harmful by inhalation.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S16	Keep away from sources of ignition.
S29	Do not empty into drains.
S7	Keep container tightly closed.
S61	Avoid release to the environment. Refer to special instructions / safety data sheets.

Regulatory Information: This product contains no chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 40 CFR part 372.

SECTION 16. OTHER INFORMATION

Revision Date: 04/30/2015

Additional Information About No data available.

This Product:

Company Policy or

Disclaimer:

While the information and recommendations in this publication are given to the best of our knowledge, and information at the date of publication, nothing herein is to be construed as a warranty, expressed or otherwise. In all cases, it is the responsibility of the user to determine the applicability of such information, and recommendations or the suitability of any product for its own particular purpose.

The product may present hazards and should be used with caution. While certain hazards are described in this Safety Data Sheet, no guarantee is made that these are the only hazards that exist. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

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