

Safety Data Sheet



PSCS Floor Fix Part A

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SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

1.1 Trade Name (as labeled):	PSCS Floor Fix Part A
Synonyms:	N/A
CAS No:	Mixture
1.2 Product Use:	Ultra Low Viscosity Polymer Concrete Repair Binder
1.3 Company Name:	PSCS
Company Address:	P.O. Box 2377
Company Address Cont:	Davidson, NC 28036-2377
Business Phone:	(980) 333-6414
Info:	info@pscs-llc.com
1.4 Emergency Telephone Number:	Chemtrec: (800) 424-9300
Date of Last Revision:	September 28, 2018
Date of Current Revision:	June 26, 2019

SECTION 2 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a clear to amber colored liquid with a petroleum distillate odor.

Health Hazards: May cause skin, eye, and respiratory system irritation. May be an aspiration hazard. Inhalation may cause drowsiness or dizziness

Flammability Hazards: This product is a non-flammable liquid.

Reactivity Hazards: None.

Environmental Hazards: The environmental effects of this product have not been investigated, however release may cause long term adverse environmental effects.

US DOT Symbols: Not Regulated



EU and GHS Symbols:

Signal Word: Danger

GHS Ratings:

Inhalation Toxicity	Acute Tox. 4	Gases>2500+<=5000ppm, Vapors>10+<=20mg/l, Dusts&mists>1+<=5mg/l
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation.
Eye corrosive	2A	Eye irritant: Subcategory 2A, Reversible in 21 days.
Respiratory sensitizer	1	Respiratory sensitizer.
Skin sensitizer	1	Skin sensitizer.
Carcinogen	2	Limited evidence of human or animal carcinogenicity.
Reproductive Toxicity	2	

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GHS Hazards

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.

GHS Precautions

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash 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.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.
- P285 In case of inadequate ventilation wear respiratory protection.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment (see Section 4 of the SDS).
- P362 Take off contaminated clothing and wash before reuse.
- P363 Wash contaminated clothing before reuse.
- P302+P352 IF ON SKIN: Wash with soap and water.
- P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.
- P337+P313 Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- P405 Store locked up.
- P501 Dispose of contents/container according to Section 13 of the SDS.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients	WT%	CAS No.
4,4'-methylenediphenyl diisocyanate	50-70%	101-68-8
Benzene, 1,1'-methylenebis [isocyanato-,homopolymer]	10-30%	39310-05-9
Diphenylmethane-2,4'-diisocyanate	5-10%	5873-54-1

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2,2,4-trimethyl-1,3-pentanediol diisobutyrate	<40%	6846-50-0
Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).		

Note: All WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250:2000

SECTION 4 – FIRST AID MEASURES

Inhalation:	Remove to fresh air if effects occur. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Consult a physician or transport to a medical facility.
Eye Contact:	Immediately flush eyes with large quantities of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
Skin Contact:	Wash immediately and thoroughly with soap and flowing water. Remove contaminated clothing while washing. Seek medical attention if irritation persists. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water.
Ingestion:	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Notes to Physician:	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Cholinesterase inhibition has been noted in human exposure but is not of benefit in determining exposure and is not correlated with signs of exposure. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: 230° C (446° F)

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Flammable Properties: Product is not considered a fire hazard, but will burn if ignited.
NFPA Flammability Class: III B (Combustible liquid).

Suitable Extinguishing Media: Carbon dioxide, dry chemical, water fog or fine spray. Alcohol resistant foams are preferred, general purpose synthetic foams or protein foams may function, but will not be as effective.

Unsuitable Extinguishing Media: Do not use direct water stream, as it may spread fire.

Unusual Fire and Explosion Hazards: Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, ammonia, nitrogen oxides, isocyanates, hydrogen cyanide and other unidentified toxic and/or irritating compounds.

Fire Fighting: Stay upwind and keep people away. Isolate fire and deny unnecessary entry. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible, as it may cause environmental damage. Review section 6 and section 12 of this SDS.

Protection of Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA) and approved protective clothing (helmet, coat, trousers, boots and gloves). If contact is likely, use full chemical resistant fire fighting clothing with SCBA.

SECTION 6 – ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)

Personal Precautions: Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Prevent spilled material from contact with soil, drains and sewers.

Methods for Containment: Contain by diking with sand, earth or other suitable material.

Methods for Clean-up: Absorb spill with an inert material, use non-sparking tools to place into labeled waste container for disposal.

SECTION 7 - HANDLING AND STORAGE

Handling: Wear appropriate personal protective equipment (see section 8). Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not ingest. Avoid prolonged or repeated contact with skin. May cause allergic skin reaction, persons with a history of skin sensitization should not be employed in any process in which this product is used. Wash thoroughly with soap and water after handling. Do not handle or store near flame, heat or strong oxidants. Keep away from sources of ignition and hot metal surfaces.

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Storage: Store original unopened containers in a sheltered area between 60°F and 80°F (15°C and 27°C) at atmospheric pressure. Do not store in direct sunlight. Keep containers closed when not in use.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Parameters:

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
4,4'-methylenediphenyl diisocyanate 101-68-8	Not Established	0.005 ppm TWA (listed under Methylene bisphenyl isocyanate (MDI))	NIOSH: 0.005 ppm TWA (listed under Methylene bisphenyl isocyanate); 0.05 mg/m ³ TWA 0.020 ppm Ceiling (10 min); 0.2 mg/m ³ Ceiling (10 min)

Engineering Controls: General mechanical ventilation is sufficient for most conditions. Control airborne levels below the exposure guidelines, if established.
Local exhaust ventilation may be necessary for some operations.
General Hygiene Considerations: Wash thoroughly after handling and before eating, drinking or smoking.
Eye/face Protection: Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.
Skin Protection: Use neoprene, nitrile/butadiene rubber or other impermeable chemical resistant gloves to prevent skin irritation. If potential for skin contact is present, wear impervious, long-sleeved, body covering clothing and rubber boots.
Respiratory Protection: If exposure may or does exceed occupational exposure limits, respiratory irritation is experienced, or during spray application, use a properly fitted MSHA/NIOSH approved respirator fitted with organic vapor cartridges and particulate pre-filters. If the respirator is the sole means of protection, use a full-face supplied air respirator. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use an approved positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.
Contaminated Gear: Remove contaminated clothing and shoes while washing. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:

Appearance (Physical State and Color): Clear to pale yellow

Odor: Mild

Odor Threshold: No data available

pH: No data available

Melting/Freezing Point: No data available

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Boiling Point: Not data available
Flash Point: Flash Point: 230°C (446°F)
Evaporation Rate: No data available
Flammability (Solid; Gas): No data available
Upper/Lower Flammability or Explosion Limits: No data available
Vapor Pressure (mm Hg @ 20°C (68° F): No data available
Vapor Density: No data available
Relative Density: No data available
Specific Gravity: 1.0 – 1.2
Solubility in Water: No data available
Weight per Gallon: No data available
Partition Coefficient (n-octanol/water): No data available
Auto-Ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
9.2 Other Information: No data available

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions (see Section 7).
Conditions to Avoid: Avoid temperatures above 450 deg F (230 deg C), potential violent decomposition may occur. Avoid contact with water, as material reacts with water, releasing carbon dioxide which can cause rapid pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible Materials: Strong acids, bases, or oxidizing agents. Avoid unintended contact with amines, alcohols, water, moist air and metals such as aluminum, brass, copper, tin, zinc and galvanized metals.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, ammonia, nitrogen oxides, isocyanates, hydrogen cyanide and other unidentified toxic and/or irritating compounds.

Hazardous polymerization will not occur.

SECTION 11 – TOXICOLOGY INFORMATION

Information on likely routes of : No data is available on the product itself exposure

Acute toxicity
Components:

Suspected Cancer Agent: Ingredients within this product are found on one or more of the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are considered to be cancer-causing agents by these agencies.
Irritancy: Skin, eye, respiratory irritant.
Sensitization to the Product: This product is not expected to cause skin sensitization.

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Germ Cell Mutagenicity: This product contains ingredients that are suspected to be a germ cell mutagenic.

Reproductive Toxicity: This product is not expected to be a human reproductive toxicant.

Components:

4,4'-Methylenediphenyl diisocyanate:

Acute oral toxicityComponents : LD50 (Rat, male): > 10,000 mg/kg
method: OECD Test Guideline 401

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Acute oral toxicityComponents : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
Assessment: The substance of mixture has no acute oral toxicity

Acute inhalation toxicity - : Acute toxicity estimate: 1.49 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.12 mg/l Exposure time: 6 h

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

Components:

4,4'-Methylenediphenyl diisocyanate:

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Diphenylmethane-2,4' – diisocyanate:

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Metod: OECD Test Guideline 402

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Components:

4,4'-Methylenediphenyl diisocyanate:

Species: Rabbit

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Method: OECD test Guideline 404
Result: Irritating to skin

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Species: Rabbit
Result: Skin irritation
GLP: yes

Diphenylmethane-2,4' – diisocyanate:
Species: Rabbit
Assessment: Irritant
Method: OECD Test Guideline 404
Result: Irritating to skin.

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:
Species : Guinea pig
Exposure time : 24 h
Result : slight skin irritation

Serious eye damage/eye irritation

Components:

4,4'-Methylenediphenyl diisocyanate:
Species: Rabbit
Result: Mild eye irritation

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Species: Rabbit
Result: Mild eye irritation
Method: OECD Test Guideline 405
GLP: yes

Diphenylmethane-2,4' – diisocyanate:
Species: Humans
Result: Irritation to eyes, reversing within 7 days
Assessment: Mild eye irritant
Method: OECD Test Guideline 405
Remarks: Mild eye irritation

Respiratory or skin sensitization

Components:

4,4'-Methylenediphenyl diisocyanate:
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact

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Exposure routes: Respiratory Tract
Species: Guinea pig
Result: May cause sensitisation by inhalation

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact

Exposure routes: Respiratory Tract
Species: Guinea pig
Result: May cause sensitisation by inhalation.

Diphenylmethane-2,4' – diisocyanate:
Exposure routes: Skin
Species: Mouse
Assessment: May cause sensitisation by skin contact.
Result: Causes sensitisation.

Exposure routes: Respiratory Tract
Species: Guinea pig
Assessment: May cause sensitisation by inhalation
Result: Causes sensitisation.

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:
Test Type: Skin Sensitization
Species: Guinea pig
Result: non-sensitizing

Components:

4,4'-Methylenediphenyl diisocyanate:
Assessment: May cause sensitisation by inhalation and skin contact

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Assessment: May cause sensitisation by inhalation and skin contact.

Diphenylmethane-2,4' – diisocyanate:
Assessment: Mild eye irritation

Germ cell mutagenicity

Components:

4,4'-Methylenediphenyl diisocyanate:
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B. 13/14
Result: negative

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Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Genotoxicity in vitro : Concentration: ca 50 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Diphenylmethane-2,4' – diisocyanate:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Components:

4,4'-Methylenediphenyl diisocyanate:
Genotoxicity in vivo : Application Route: inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Genotoxicity in vitro : Application Route: inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Diphenylmethane-2,4' – diisocyanate:
Genotoxicity in vitro : Application Route: inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Components:

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Germ cell mutagenicity- Assessment : Arimal testing did not show any mutagenic effects.

Germ cell mutagenicity- Assessment : No data available

Components:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate
Germ cell mutagenicity : Not classified based on available information

Carcinogenicity

Components:

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4,4'-Methylenediphenyl diisocyanate:

Species: Rat, (male and female)

Application Route: Inhalation

Exposure time: 24 mouth(s)

Dose: 1 mg/m³

Frequency of Treatment: 5 daily

Method: OECD Test Guideline 453

Result: positive

Target Organs: Lungs

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Species: Rat, (male and female)

Application Route: Inhalation

Exposure time: 24 mouth(s)

Dose: 1 mg/m³

Frequency of Treatment: 5 daily

Method: OECD Test Guideline 453

Result: negative

Diphenylmethane-2,4' – diisocyanate:

Species: Rat, (male and female)

Application Route: Inhalation

Exposure time: 24 mouth(s)

Dose: 1 mg/m³

Frequency of Treatment: 5 daily

Method: OECD Test Guideline 453

Result: positive

Target Organs: Lungs

Carcinogenicity-
Assessment : No Data Available

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

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

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

Reproductive toxicity

Components:

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Diphenylmethane-2,4' – diisocyanate:

Effect on fertility : Species: Rat, female
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: Animal testing did not show any effects on fertility

Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Result Animal testing did not show any effects on fertility

Components:

4,4'-Methylenediphenyl diisocyanate:

Effects on fertility : Species: Rat, female
development : Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 4
Mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Species: Rat, female
Application Rout: Inhalation
General Toxicity Maternal: No observed adverse effect level: 4
Mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Components:

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Reproductive toxicity - : No evidence of adverse effects on sexual function and fertility,
or on development, based on animal experiments.

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Effects on fetal development: Species: Rabbit
Application Route: Oral
Developmental Toxicity: NOAEL: 300 mg/kg body weight
Reproductive toxicity - Assessment: Some evidence of
adverse effects on development, based on animal
experiments.

STOT – single exposure

Components:

4,4'-Methylenediphenyl diisocyanate:

Exposure routes: inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

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Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Exposure routes: inhalation (dust/mist/fume)
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

Diphenylmethane-2,4' – diisocyanate:
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT – single exposure

No data available

Repeated dose toxicity

Components:

4,4'-Methylenediphenyl diisocyanate:
Species: Rat, male and female
: 0.2 mg/m³
Exposure time: 2 yr
Number of exposures: 5 d
Method: OECD Test Guideline 453

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Species: Rat, male and female
: 0.2 mg/m³
Exposure time: 2 yr
Number of exposures: 5 d
Method: OECD Test Guideline 453

Diphenylmethane-2,4' – diisocyanate:
Species: Rat, male and female
: 0.2 mg/m³
Exposure time: 2 yr
Number of exposures: 5 d
Method: OECD Test Guideline 453

Components:

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:
Repeated dose toxicity - : No adverse effect has been observed in chronic toxicity tests.
Assessment

Diphenylmethane-2,4' – diisocyanate:
Repeated dose toxicity - : Mild eye irritation
Assessment

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Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Toxicity to fish : NOEC (Fish):>= 6 mg/l
Exposure time: 96 h
Remarks: (limit of solubility in fresh water)

4,4'-Methylenediphenyl diisocyanate:

Toxicity to fish : LC50 (Brachydanio reio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 202

Benzene 1,1'-methylenedis[isocyanato-, homopolymer:

Toxicity to fish : LC50 (Brachydanio reio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

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2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Toxicity to daphnia and other aquatic invertebrates: NOEC (Daphnia): >- 1.46 mg/l
Exposure time: 48 h
Remarks: (limit of solubility in fresh water)

Diphenylmethane-2,4' – diisocyanate:

Toxicity to daphnia and other aquatic invertebrates: LC50 (Brachydanio reio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Toxicity to algae: EC50 (Chlorella pyrenoidosa): > 7.49
Exposure time: 72 h
Remarks: (limit of solubility in fresh water)

Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Toxicity to algae: EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 1,640 mg/l
Exposure Time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): no data available

Components:

Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Toxicity to fish (Chronic:GLP:no toxicity)

Components:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity): EC50 (Daphnia): >1.3 mg/l
Exposure time: 21 d
Remarks: (limit of solubility in fresh water)

4,4'-Methylenediphenyl diisocyanate:

Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): >= 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

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Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): ≥ 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

Diphenylmethane-2,4' – diisocyanate:

Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): ≥ 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

M-Factor (Acute aquatic toxicity): no data available

Components:

Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Diphenylmethane-2,4' – diisocyanate:

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Components:

4,4'-Methylenediphenyl diisocyanate:

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): $\geq 1,000$ mg/kg
Exposure time: 336 h
Method: OECD Test Guideline 207

Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Toxicity to soil dwelling organisms : EC50 (Eisenia fetida (earthworms)): $> 1,000$ mg/kg
Exposure time: 336 h
Method: OECD Test Guideline 207

Diphenylmethane-2,4' – diisocyanate:

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): $\geq 1,000$ mg/kg
Exposure time: 336 h

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Method: OECD Test Guideline 207

Plant Toxicity	:	No data available
Sediment toxicity	:	No data available
Toxicity to terrestrial organisms	:	No data available
Ecotoxicology Assessment Acute aquatic toxicity	:	No data available
Chronic aquatic toxicity	:	No data available
Toxicity Data on Soil	:	No data available
Other organisms relevant to the environment	:	No data available

Persistence and degradability

Components:

4,4'-Methylenediphenyl diisocyanate:

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation: 0%
Exposure time: 28 d
Method: Inherent Biodegradability:Modified MITI Test (II)

Benzene 1,1'-methylenedis[isocyanato-, homopolymer

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation: 0%
Exposure time: 28 d
Method: Inherent Biodegradability:Modified MITI Test (II)

Diphenylmethane-2,4' – diisocyanate

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation 0%

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Exposure time: 28 d
Method: Inherent Biodegradability: Modified MITI Test (II)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate:
Biodegradability: Biodegradation: 70.73 %
Exposure time: 28 d
Method: Ready Biodegradability: CO2 Evolution Test

ThOD: 2.40 g/g

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Components:

4,4'-Methylenediphenyl diisocyanate:
Stability in water : Degradation half life (DT50): 20 hrs (25 °C)
Method: No information available
Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Components:

4,4'-Methylenediphenyl diisocyanate:
Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely

Benzene 1,1'-methylenedis[isocyanato-, homopolymer
Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely
2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

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Diphenylmethane-2,4' – diisocyanate
Bioaccumulation : Distribution among environmental compartments: log
Koc: 2.69 - 3.6; Method: QSAR model

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely
2,2,4-trimethyl-1,3-pentanediol diisobutyrate:
Bioaccumulation: Species: Fish
Bioconcentration factor (BCF): 1.95
Species: Fish
Bioconcentration factor (BCF): 183 - 194

Components:

4,4'-Methylenediphenyl diisocyanate:
Partition coefficient: n- : log Pow: 4.51 (20 °C)
octanol/water : pH: 7
Method: OECD Test Guideline 117

Benzene 1,1'-methylenedis[isocyanato-, homopolymer
Partition coefficient: n- : log Pow: 8.56 (20 °C)
octanol/water

Diphenylmethane-2,4' – diisocyanate
Partition coefficient: n- : log Pow: 4.51 (20 °C)
pH: 7
Method: OECD Test Guideline 117

Mobility in soil

Mobility : No data available

Distribution among
Environmental compartments : No data available

Stability in soil : 2,2,4-trimethyl-1,3-pentanediol diisobutyrate:
Distribution among environmental compartments: log
Koc: 2.69 - 3.6; Method: QSAR model

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB
assessment : No data available

Endocrine disrupting potential : No data available

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Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer
Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone – CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was Manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B)

Additional ecological Information – Product : No data available

Global warming potential (GWP) ppppp : No data available

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with federal, state and local regulations. The preferred method for disposal of uncontaminated product is by recycling, reclaiming, incineration or other thermal destruction device using a licensed and permitted waste disposal contractor.

SECTION 14 - TRANSPORTATION INFORMATION

14.1 U.S. Department of Transportation (DOT) Shipping Regulations:

This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

UN Identification Number: NA 3082
Proper Shipping Name: OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate)
Hazard Class Number and Description: Class 9 - Miscellaneous Hazardous Materials
Packing Group: III
DOT Label(s) Required: Miscellaneous Hazardous Materials

North American Emergency Response Guidebook Number: None

14.2 Environmental Hazards:

Marine Pollutant: no

14.3 Special Precaution for User: None

14.4 International Air Transport Association

Shipping Information (IATA): Not regulated as dangerous goods

14.5 International Maritime Organization

Shipping Information (IMO):
UN Identification Number: Not regulated as dangerous goods

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Proper Shipping Name:	None
Hazard Class Number and Description:	None
Packing Group:	None
EMS-No:	None

SECTION 15 – REGULATORY INFORMATION

USA Federal: This SDS has been prepared in compliance with the Occupational Safety and Health Act (OSHA)

Hazard Communication Standard (29 CFR 1910.1200). This product is considered to be a hazardous chemical under that standard. The specific chemical identity and/or exact percentage of any proprietary ingredient(s) may be withheld as a trade secret, pursuant to the standard.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): To the best of our knowledge, this product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity at levels which require warning under this statute:

- None

Massachusetts Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

26447-40-5 Diphenylmethane Diisocyanate (MDI) Mixed Isomers < 70 %

101-68-8 4,4'-Diphenylmethane Diisocyanate (MDI) 50 to 70 %

New Jersey Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

26447-40-5 Diphenylmethane Diisocyanate (MDI) Mixed Isomers < 70 %

Pennsylvania Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

101-68-8 4,4'-Diphenylmethane Diisocyanate (MDI) 50 to 70 %

USA Resource Conservation and Recovery Act (40 CFR 261): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Threshold Planning Quantities (TPQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Hazardous Substances Reportable Quantities (RQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

101-68-8 4,4'-Diphenylmethane Diisocyanate (MDI) 50 to 70 %

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USA Toxic Substances Control Act (TSCA) - section 12(b): To the best of our knowledge, this product contains the following chemicals above the de minimus concentration(s) which requires notification to the Environmental Protection Agency (EPA) per 40 CFR 707, subpart D, if any person intends to export:
- None

Country	Regulation	All Components Listed
Australia	Australian inventory of Chemical Substances (AICS)	Yes
Canada	Canada Domestic Substance List	Yes
Canada	Canada Non-Domestic Substance List (NDSL)	No
China	China Inventory of Existing Chemical Substances	Yes
EU	EU REACH List of Registered Intermediates	No
EU	EU REACH List of Pre-Registered Substances	No
EU	EU REACH List of Registered Substances	No
Japan	Japanese Existing and New Chemical Substance List	Yes
South Korea	South Korea Existing Chemicals Inventory	Yes
Philippines	Philippines Inventory of Chemicals and Chemical	No
USA	USA TSCA Inventory List Section 8(b)	Yes

SECTION 16 – OTHER INFORMATION

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The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. This safety sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. PSCS assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, PSCS assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

END OF SDS SHEET+