

ARATHANE® 5753 A

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	12/09/2015	400001009994	Date of first issue: 12/09/2015

SECTION 1. IDENTIFICATION

Product name : ARATHANE® 5753 A

Manufacturer or supplier's detailsCompany name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980The Woodlands,
TX 77387
United States of America

Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : MSDS@huntsman.com

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

Supplied by:
Sil-Mid Limited
Roman Park, Roman Way
Coleshill, West Midlands
B46 1HG
T: 01675 432850
F: 01675 432870
E: info@silmid.com

Recommended use of the chemical and restrictions on use

Recommended use : Component used for the manufacture of electrical insulation parts

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Inhalation)	: Category 4
Skin irritation	: Category 2
Eye irritation	: Category 2B
Respiratory sensitization	: Category 1
Skin sensitization	: Category 1
Specific target organ systemic toxicity - single exposure	: Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H315 + H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.

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H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

Precautionary Statements**: Prevention:**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves.

P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 60 - <= 100
Benzene, 1,1'-methylenebis[isocyanato-	26447-40-5	>= 3 - <= 7
Benzene, 1,1'-methylenebis[isocyanato-, homopolymer	39310-05-9	>= 13 - <= 30
triethyl phosphate	78-40-0	>= 1 - <= 3

SECTION 4. FIRST AID MEASURES

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| General advice | : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended. |
| If inhaled | : Call a physician or poison control center immediately.
If unconscious place in recovery position and seek medical advice. |
| In case of skin contact | : If on skin, rinse well with water. |
| In case of eye contact | : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist. |
| If swallowed | : Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital. |
| Most important symptoms and effects, both acute and delayed | : None known. |
| Notes to physician | : No information available. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|--|---|
| Suitable extinguishing media | : No data is available on the product itself. |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during fire fighting | : No information available. |
| Hazardous combustion products | : No data is available on the product itself. |
| Specific extinguishing methods | : No data is available on the product itself. |
| Further information | : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Special protective equipment for fire-fighters | : Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions,
protective equipment and
emergency procedures | : Use personal protective equipment.
Ensure adequate ventilation. |
| Environmental precautions | : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform
respective authorities. |
| Methods and materials for
containment and cleaning up | : Soak up with inert absorbent material (e.g. sand, silica gel,
acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal. |

SECTION 7. HANDLING AND STORAGE

- | | |
|--|--|
| Advice on protection against
fire and explosion | : Normal measures for preventive fire protection. |
| Advice on safe handling | : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the
application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national
regulations.
Persons susceptible to skin sensitization problems or asthma,
allergies, chronic or recurrent respiratory disease should not
be employed in any process in which this mixture is being
used. |
| Conditions for safe storage | : Keep container tightly closed in a dry and well-ventilated
place.
Observe label precautions.
Electrical installations / working materials must comply with
the technological safety standards. |
| Materials to avoid | : Strong acids

Strong bases

Strong oxidizing agents |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

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4,4'-methylenediphenyl diisocyanate	101-68-8	TWA	0.005 ppm	ACGIH
		C	0.02 ppm 0.2 mg/m ³	OSHA Z-1
		C	0.02 ppm 0.2 mg/m ³	OSHA PEL

Engineering measures : Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an approved filter.

Hand protection

Material : butyl-rubber
Break through time : > 8 h

Solvent-resistant gloves (butyl-rubber)
Nitrile rubber
10 - 480 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : yellow

Odor : slight

Odor Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Melting point/freezing point : No data available

Boiling point/boiling range : 314 °C

Flash point : > 177 °C

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Method: Pensky-Martens closed cup, closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapor pressure : < 0.0004 hPa (25 °C)

Relative vapor density : No data is available on the product itself.

Relative density : 1.2

Density : 1.2 g/cm3

Solubility(ies)

Water solubility : Water reactive

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Autoignition temperature : No data is available on the product itself.

Thermal decomposition : No data is available on the product itself.

Viscosity

Viscosity, dynamic : 50 mPa.s (25 °C)

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Molecular weight : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : No data available

Hazardous decomposition products : Burning produces obnoxious and toxic fumes.

Carbon oxides
Nitrogen oxides (NOx)

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SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

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

Acute inhalation toxicity - Product : Acute toxicity estimate: 1.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Ingredients:

4,4'-methylenediphenyl diisocyanate:

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

Benzene, 1,1'-methylenebis[isocyanato-:

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

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

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402
GLP: no

triethyl phosphate:

Acute dermal toxicity : LD50 (Rabbit): > 20,000 mg/kg

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

Skin corrosion/irritation**Product:**

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation**Product:**

Species: Rabbit

Result: Mild eye irritation

Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin.

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Respiratory or skin sensitization**Product:**

Routes of exposure: Skin
Species: Guinea pig
Result: Causes sensitization.

Routes of exposure: Respiratory Tract
Species: Humans
Result: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity**Ingredients:**

4,4'-methylenediphenyl diisocyanate:

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

Benzene, 1,1'-methylenebis[isocyanato-:

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

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

Genotoxicity in vitro : Concentration: ca 50 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

triethyl phosphate:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Method: OECD Test Guideline 482
Result: negative

Ingredients:

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'-methylenebis[isocyanato-:

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m³

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Method: OECD Test Guideline 474
Result: negative

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:
Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m³
Method: OECD Test Guideline 474
Result: negative
GLP: yes

triethyl phosphate:
Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: OECD Test Guideline 478
Result: negative

Carcinogenicity**Ingredients:**

4,4'-methylenediphenyl diisocyanate:
Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 24 month(s)
Dose: 1 mg/m³
Frequency of Treatment: 5 daily
Method: OECD Test Guideline 453
Result: positive
Target Organs: Lungs

Benzene, 1,1'-methylenebis[isocyanato-:
Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 24 month(s)
Dose: 1 mg/m³
Frequency of Treatment: 5 daily
Method: OECD Test Guideline 453
Result: negative

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:
Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 24 month(s)
Dose: 1 mg/m³
Frequency of Treatment: 5 daily
Method: OECD Test Guideline 453
Result: negative

Carcinogenicity - : No data available
Assessment

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential

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carcinogen by OSHA.

NTP

No ingredient 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**Ingredients:**

4,4'-methylenediphenyl diisocyanate:

Effects on fertility : Method: OECD Test Guideline 414

Benzene, 1,1'-methylenebis[isocyanato-:

Species: Rat, male and female

Application Route: Inhalation

Method: OECD Test Guideline 414

Ingredients:

4,4'-methylenediphenyl diisocyanate:

Effects on fetal development : Species: Rat, female

Application Route: Inhalation

General Toxicity Maternal: NOAEL (No observed adverse effect level): 4 mg/m³

Method: OECD Test Guideline 414

Result: No teratogenic effects.

Benzene, 1,1'-methylenebis[isocyanato-:

Species: Rat, female

Application Route: Inhalation

General Toxicity Maternal: NOAEL (No observed adverse effect level): 4 mg/m³

Method: OECD Test Guideline 414

Result: No teratogenic effects.

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

Species: Rat, female

Application Route: Inhalation

General Toxicity Maternal: NOAEL (No observed adverse effect level): 4 mg/m³

Method: OECD Test Guideline 414

Result: No teratogenic effects.

GLP: yes

triethyl phosphate:

Species: Rat

Application Route: Oral

General Toxicity Maternal: NOAEL (No observed adverse effect level): 125 mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects.

Reproductive toxicity -
Assessment : No data available

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STOT-single exposure**Ingredients:**

4,4'-methylenediphenyl diisocyanate:

Routes of exposure: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

Benzene, 1,1'-methylenebis[isocyanato-:

Routes of exposure: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

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

Routes of exposure: inhalation (dust/mist/fume)

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

STOT-repeated exposure

No data available

Repeated dose toxicity**Ingredients:**

4,4'-methylenediphenyl diisocyanate:

Species: Rat, male and female

NOEC: 0.2 mg/m3

Exposure time: 2 yr

Number of exposures: 5 d

Method: OECD Test Guideline 453

Benzene, 1,1'-methylenebis[isocyanato-:

Species: Rat, male and female

NOEC: 0.2 mg/m3

Test atmosphere: dust/mist

Exposure time: 2 yr

Number of exposures: 5 d

Method: OECD Test Guideline 453

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

Species: Rat, male and female

NOEC: 0.2 mg/m3

Test atmosphere: dust/mist

Exposure time: 2 yr

Number of exposures: 5 d

Method: OECD Test Guideline 453

triethyl phosphate:

Species: Rat, male and female

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NOEC: 1000 mg/kg, 366 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 4 Weeks
Number of exposures: 7 d
Method: Subacute toxicity

Repeated dose toxicity - : No data available
Assessment

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****Ingredients:**

4,4'-methylenediphenyl diisocyanate:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Benzene, 1,1'-methylenebis[isocyanato-:

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Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:
Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no

triethyl phosphate:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water

Ingredients:

4,4'-methylenediphenyl diisocyanate:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Benzene, 1,1'-methylenebis[isocyanato-:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: no

triethyl phosphate:
Toxicity to daphnia and other aquatic invertebrates : LC50: > 100 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water

(Daphnia magna (Water flea)):

Ingredients:

Benzene, 1,1'-methylenebis[isocyanato-:
Toxicity to algae : EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 1,640 mg/l

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Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Benzene, 1,1'-methylenebis[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
GLP: yes

triethyl phosphate:
Toxicity to algae : EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 901 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

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

Ingredients:

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:
Toxicity to fish (Chronic toxicity) : GLP: no

Ingredients:

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

Benzene, 1,1'-methylenebis[isocyanato-:
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

Benzene, 1,1'-methylenebis[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

triethyl phosphate:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 31.6 mg/l
Exposure time: 21 d
Test substance: Fresh water
Method: OECD Test Guideline 211

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M-Factor (Chronic aquatic toxicity) : No data available

Ingredients:

Benzene, 1,1'-methylenebis[isocyanato-:

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

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

Toxicity to bacteria : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209
GLP: no

triethyl phosphate:

Toxicity to bacteria : (Pseudomonas putida): 2,985 mg/l
Exposure time: 0.5 h
Test Type: static test
Test substance: Fresh water

Ingredients:

4,4'-methylenediphenyl diisocyanate:

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

Benzene, 1,1'-methylenebis[isocyanato-:

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

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

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

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

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Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability**Ingredients:**

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'-methylenebis[isocyanato-:

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'-methylenebis[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)

triethyl phosphate:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Inoculum: activated sludge
Result: Inherently biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand : No data available

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(COD)

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential**Ingredients:**

4,4'-methylenediphenyl diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Benzene, 1,1'-methylenebis[isocyanato-:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Bioconcentration factor (BCF): 439
Remarks: Bioaccumulation is unlikely.

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

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
GLP: yes
Remarks: Bioaccumulation is unlikely.

triethyl phosphate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.5 - 0.8
Exposure time: 42 d
Test substance: Fresh water
Method: semi-static test

Ingredients:

4,4'-methylenediphenyl diisocyanate:

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

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Benzene, 1,1'-methylenebis[isocyanato-:

Partition coefficient: n-octanol/water	: log Pow: 4.51 (22 °C)
	pH: 7
	Method: OECD Test Guideline 117
	GLP: no

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

Partition coefficient: n-octanol/water	: log Pow: 8.56 (20 °C)
	GLP: no

triethyl phosphate:

Partition coefficient: n-octanol/water	: log Pow: 1.11
	Method: Partition coefficient

Mobility in soil

Mobility	: No data available
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Distribution among environmental compartments	: No data available
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Stability in soil	: No data available
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Other adverse effects

Environmental fate and pathways	: No data available
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Results of PBT and vPvB assessment	: No data available
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Endocrine disrupting potential	: No data available
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Adsorbed organic bound halogens (AOX)	: No data available
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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).
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Additional ecological information - Product	: No data available
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Global warming potential (GWP)	: No data available
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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

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Waste from residues	: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulation****IATA**

Not regulated as a dangerous good

IMDG

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**DOT Classification**

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-methylenediphenyl diisocyanate	101-68-8	66 %
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Clean Air Act

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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

4,4'-methylenediphenyl diisocyanate	101-68-8	66 %
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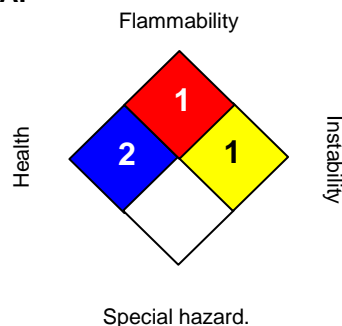
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

CH INV	: The mixture contains substances listed on the Swiss Inventory
TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL.
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS III:**

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Sources of key data used to compile the Material Safety Data Sheet : Information taken from reference works and the literature.,
Information derived from practical experience.

Revision Date : 12/09/2015

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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