



SAFETY DATA SHEET - SDS

Dynamo Polyurethane Systems - ISO Isocyanate
ISO Component A



Section 1. IDENTIFICATION

Product Name : DYNAMO PS - ISO Component A

Manufacturer or supplier's details

Company Name of Supplier : Dynamo Polyurethane Systems LLC
Address : 2113 Harwood Rd Ste 309 #900
Bedford, Texas 76021 USA

Telephone : Tech Info (469-799-9991)
Email address for SDS responsibility : info@Dynamosp.com
Emergency telephone number Hazardous Materials : Chemtrec - 1-800-424-9300 or
incident, spill, leak, fire, exposure, or accidnet outside USA - +1-703-527-3887

Product Use : Component of a Spray Polyurethane Foam System.
Recommended use : For Industrial, Commercial or Residential applications
of Spray Polyurethane Foam Systems only.

Section 2. HAZARDOUS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910.1200

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

GHS label elements
Hazard Pictograms:



Single Word : **Danger**

Hazard Statements : H315 + H320 Causes skin and eye irritation.
H317 May Cause an allergic skin reaction.
H332 Harmful if inhaled.
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/ vapors/ spray.
P264 Wash skin 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.
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



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comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
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/
doctor.
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 facility in accordance with
local, regional, national and international regulations.

Other hazards
None known.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Weight Percent	Components	Cas Number	Classification
50-60%	Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity - single exposure Category 3 Respiratory system. Specific target organ toxicity - repeated exposure Category 1 Respiratory Tract
35-45%	4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity - single exposure Category 3 Respiratory system. Specific target organ toxicity - repeated exposure Category 1 Respiratory Tract.
1-5%	2,4'-Diphenylmethane Diisocyanate (MDI)	5873-54-1	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity - single exposure Category 3 Respiratory system. Specific target organ toxicity - repeated exposure Category 1 Inhalation Respiratory Tract.
0.1 - 1%	2,2'-Diphenylmethane Diisocyanate	2536-05-2	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity - single exposure Category 3 Respiratory system. Specific target organ toxicity - repeated exposure Category 1 Inhalation RespiratoryTract.



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Section 4. First Aid Measures

Description of necessary first aid measures

- General advice** : Move out of dangerous area.
Do not leave the victim unattended.
Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.
- Skin** : Clean exposed area with soap and plenty of lukewarm water. Remove contaminated clothing. Seek medical attention. Wash contaminated clothes before re-use. Call a physician if irritation develops or persist.
- Eyes** : Immediately flush thoroughly with water for at least 15 minutes lifting eye lids occasionally. If easy to do, remove contact lens, if worn. Protect unharmed eye. Keep eye wide open while rinsing. Get medical attention.
- Inhalation** : Remove victim to fresh air; extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Consult a physician immediately if symptoms such as shortness of breath or asthma are observed
- Ingestion** : Do Not induce vomiting. Wash mouth out with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. **Seek medical attention immediately.**
- If swallowed** : Gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Keep respiratory tract clear. Keep at rest. If a person vomits when lying on his back, place him/her in the recovery position. Never give anything by mouth to an unconscious person. Take victim immediately to hospital. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Severe allergic skin reactions, bronchospasm and anaphylactic shock

This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons. Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible. Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. May cause irritation of the digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If potential for



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exposure exists refer to Section 8 for specific personal protective equipment. First Aid responders should pay attention to self-protection and use the recommended protective clothing

Notes to physician : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours. The first aid procedure should be established in consultation with the doctor responsible for industrial medicine

Section 5. FIREFIGHTING MEASURES

- Means of Extinction** : Suitable extinguishing media:
Dry chemical, Carbon dioxide (CO₂), Foam, water spray for large fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment
- Specific hazards arising from the chemical** : During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.
- Special protective equipment and precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training. Fire fighters should wear appropriate protective equipment and self contained breathing apparatus. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. Prevent fire extinguishing water from contaminating surface water or the ground water system.
- Further information** : Standard procedure for chemical fires. Due to reaction with water producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local/state regulations.

Section 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Immediately evacuate personnel to safe areas. Use personal protective equipment. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Only qualified personnel equipped with suitable protective equipment may intervene. For additional precautions and advice on safe handling, see section 7. Never return spills in original containers for re-use. Make sure that there is a sufficient amount of neutralizing/ absorbent material near the storage area. The danger areas must be delimited and identified using relevant warning and safety signs. Treat recovered material as described in the section "Disposal considerations". For disposal considerations see section 13.
- Spill Procedure : Clean up personnel must wear protective equipment to prevent contact with the product. Evacuate the area of all unnecessary personnel. Stop spill at source. Ventilate and remove ignition sources. Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc. . .). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum).



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Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container.

Neutralization solutions include: Easy Off Grill and Oven Cleaner or Easy Off Fume Free oven cleaner-A mixture of 90% Fantastic Heavy Duty All Purpose Cleaner and 10% household ammonia. It may take 2 or more applications of the neutralization solution to decontaminate the surface.

Personal Precautions, protective equipment and emergency procedures:

Wear suitable protection clothing, gloves and eye/face protection. Ventilate the area.

Environmental precautions : Should not be released into the environment. Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

Methods and material for containment and cleaning up : Suitable material for taking up: inert absorbing material, e.g., vermiculite, kitty litter, Oil-Dri®, etc. Pick up and transfer to properly labelled containers. Ventilate the area.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Protective Measures : Put on appropriate personal protective equipment. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes, inhalation of vapors and mists. Use only with adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear appropriate respirator when ventilation is inadequate. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Keep in the original container and keep tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands before, eating, drinking. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage: Store product in accordance with local regulation. Store product at room temperature away from heat and moisture. Store product in original container protected from direct sunlight in a dry, cool, and well ventilated area with local exhaust. Keep away from direct



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sunlight in a dry, cool, and well ventilated area with local exhaust. Keep away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Exposure	Concentration	
4,4'-methylenediphenyl	101-68-8	ACGIH	TWA	
			0.005 ppm	NIOSH REL
		C	0.05 mg/m ³	
			0.02 ppm	NIOSH REL
		C	0.2 mg/m ³	
			0.02 ppm	OSHA Z-1
			0.2 mg/m ³	

Appropriate Engineering Controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc) below recommended exposure limits. Handle in accordance with good industrial hygiene and safety practice.

Personal protective equipment

Respiratory protection : Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 0.134).

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin.

Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of glove materials that might provide suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers laminated ("EVAL"), Polychlorprene (Neoprene*), Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Fluoroelastomer (Viton*).



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When prolonged or frequently repeated contact may occur, a glove with protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended.

When only brief contact is expected, a glove with protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended.

Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to : other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by the glove supplier
By industrial use of aprotic polar solvents for cleaning : Butyl rubber (0.7mm), Nitrile rubber (0.4mm), Chloroprene (0.5mm)

- Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Chemical splash goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Please follow all applicable local/national requirements when selecting protective measures for a specific workplace. Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Recommended:
Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C' , Tyvek Pro 'F' disposable overall.
- Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Ensure that eye flushing systems and safety showers are located close to the working place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Wash face, hands and any exposed skin thoroughly after handling.
Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.



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Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Color	: Brown Liquid	Vapor Pressure	: < 0.0001 mmHg @ 25 °C (77 °F)
Physical State	: Liquid	Vapor Density	: Not available
Odor	: Musty	Relative Density	: 1.234 g/cm ³ @ 20°C (68°F)
Odor Threshold	: Not available	Solubility in water	: Insoluble - Reacts slowly with water to liberate CO2 gas
pH	: Not applicable	Partition coefficient	: Not available
Melting Point/ Freezing Point	: Not applicable	Auto Ignition Temp	: Not available
Initial Boiling Point	: 208°C (406.4°F)	Decomposition Temp	: Not available
Flash Point	: 198°C (388.4°F)	Dynamic Viscosity	: 150 - 250 mPa.s @ 25°C (77°F)
Evaporation Rate	: Not available	Specific Gravity	: 1.24 @ 25°C (77°F)
Lower Flammable Limit	: Not available	Explosive Properties	: Not available
Upper Flammable Limit	: Not available		

Section 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	This is a stable material at room temperature.
Possibility of hazardous reactions	:	Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F(177°), may cause polymerization.
Conditions to avoid	:	Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.
Incompatible materials	:	Water Amines Strong Bases Alcohols Copper Alloys
Hazardous decomposition products:	:	By Fire and high heat: Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, isocyanate, isocyanic acid, other undetermined compounds.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Toxicity:

Ingredient Name	LC50	LD50	LD50
1,3 Propanediamine, N'(3-dimethylamino)propyl)N,Ndimethyl-Dimethylaminoethanol 2-	Notavailable 6.1mg/L 4 hours, (inhalation, rat) 1	1620ug/kgOral, rat	Not available
		803mg/kg Oral, rat	Not available



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Irritation:

Skin Irritation : Causes severe skin burns.

Eye Irritant : Causes serious eye damage.

Sensitization:

Skin Sensitization : Not expected to be a skin or respiratory sensitizer.

Repeated dose toxicity : No information available

Carcinogenicity : No ingredients are listed as carcinogens by ACGIH and IRAC.

Mutagenicity : No information available.

Reproductive Effects : No information available.

Assessment : May cause an allergic skin reaction., May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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 on OSHA's list of regulated carcinogens.

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.

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product : 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 LC0: > 1,000 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates Product : 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

Toxicity to algae/aquatic plants Product : EC50 (Desmodesmus subspicatus (green algae)): > 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



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Toxicity to fish (Chronic toxicity) :	No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) Product :	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 (Chronic aquatic toxicity) :	No data available
Toxicity to microorganism Product :	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms Product :	EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 336 h 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	
Biodegradability Product :	Inoculum: Domestic sewage Concentration: 30 mg/l Result: Not biodegradable Biodegradation: 0 % Exposure time: 28 d Method: Inherent Biodegradability: Modified MITI Test (II)
Biochemical Oxygen Demand (BOD):	No data available
Chemical Oxygen Demand (COD) :	No data available
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
Components:	
Diphenylmethanediisocyanate:	
Stability in water :	Degradation half life(DT50): 0.8 d (77 °F / 25 °C) Method: No information available. Remarks: Fresh water
4,4'-methylenediphenyl diisocyanate:	
Stability in water :	Degradation half life(DT50): 20 hrs (77 °F / 25 °C) Remarks: Fresh water
Photodegradation :	No data available
Impact on Sewage Treatment :	No data available
Bioaccumulative potential	
Bioaccumulation - Product :	Species: Cyprinus carpio (Carp)



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Bioconcentration factor (BCF): 200 Remarks: Bioaccumulation is unlikely.

Components:

4,4'-methylenediphenyl diisocyanate:
Partition coefficient: n- octanol/water:

log Pow: 4.51 (68 °F / 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 : No data available

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
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 : No data available
Global warming potential (GWP) : No data available

Section 13. DISPOSAL CONSIDERATIONS

Disposal methods

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.

Disposal Procedure

: Comply with Federal, provincial, state, and local regulations on reporting releases. Consult your local or regional authorities.

Section 14. TRANSPORTATION INFORMATION

International Regulations

IATA Not regulated as dangerous goods
IMDG Not regulated as dangerous goods
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

DOT Classification

UN/ID/NA number : NA 3082
Proper shipping name : OTHER REGULATED SUBSTANCES, LIQUID, N.O.S.



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(Methylene Diphenyl Diisocyanate)

Class : 9
Packing group : III
Labels : Class 9 - Miscellaneous dangerous substances and articles
ERG Code : 171
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Section 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
4,4'-methylenediphenyl diisocyanate	101-68-8	5000	11904
chlorobenzene	108-90-7	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation. Serious eye damage or eye irritation Respiratory or skin sensitization. Specific target organ toxicity (single or repeated exposure)

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

Diphenylmethanediisocyan ate	9016-87-9	>= 50 - < 70 %
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 30 - < 50 %

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

California Prop. 65

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

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

CH INV : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory



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- 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
- TCSI : On the inventory, or in compliance with the inventory
- TSCA : On the inventory, or in compliance with the inventory

Inventories

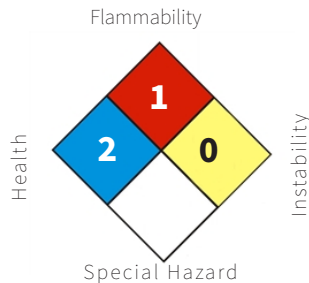
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

Section 16. OTHER INFORMATION

Further information NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY	1	
PHYSICAL HAZARD	0	

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

Liquid decontaminants (percentages by weight or volume) :
Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %
Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %
Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2.
Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

- Revision Date : 11/19/2019
- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- ACGIH / TWA : 8-hour, time-weighted average
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- NIOSH REL / C : Ceiling value not be exceeded at any time.
- OSHA Z-1 / C : Ceiling



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