



SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: JOINT FILL PART B
PRODUCT CODES: JOINT FILL B

MANUFACTURER: Penntek Industrial Coatings
STREET ADDRESS: 7850 Lakeville BLVD
CITY, STATE, ZIP: Lakeville, MN 55044

INFORMATION PHONE: 844-290-9364
EMERGENCY PHONE: Infotrac 1-800-535-5035

PREPARED BY: Kyle Baynes

DATE REVISED: 1/2/15

Chemical Name or Class: MDI isocyanate

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Respiratory sensitizer category 1B, Skin corrosion/irritation category 2, skin sensitizer category 1B, Serious eye irritation category 2B, Acute toxicity inhalation category 4, Specific target organ toxicity single exposure category 3, Long term hazard to aquatic environment category 4

GHS Label Elements and Precautionary Statements:

Label Elements: Health Hazard Exclamation Mark



Hazard Statements:

Danger: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Warning: Causes skin irritation

Warning: May cause an allergic skin reaction

Warning: Causes eye irritation

Warning: May be harmful if inhaled

Warning: May cause respiratory irritation.

May cause long lasting harmful effects to aquatic life

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

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

P284 Wear respiratory protection

P280 Wear protective gloves/protective clothing/eye protection/face protection

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

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area

Response

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P342 + P311 IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

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

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 take off contaminated clothing and wash it before reuse

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

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

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

P405 Store locked up.

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

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 1

PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS


EYES:

MAY CAUSE IRRITATION.

SKIN:

MAY CAUSE IRRITATION OR ALLERGIC SKIN RESPONSE. SKIN CONTACT MAY CAUSE SENSITIZATION.

INGESTION:

THIS MATERIAL HAS A PROBABLE LOW ACUTE ORAL TOXICITY.

INHALATION:

Harmful by inhalation. Irritating to respiratory system. May cause sensitization by inhalation. 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. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.

HEALTH HAZARDS (ACUTE AND CHRONIC):

THERE ARE REPORTS THAT CHRONIC EXPOSURE MAY RESULT IN PERMANENT DECREASE IN LUNG FUNCTION. SINGLE OR REPEATED SKIN CONTACT OR INHALATION MAY CAUSE SENSITIZATION OR ALLERGIC REACTION. PERSONS WITH ASTHMATIC-TYPE CONDITIONS, CHRONIC BRONCHITIS, OTHER CHRONIC RESPIRATORY DISEASES OR RECURRENT SKIN ECZEMA OR SENSITIZATION SHOULD BE EXCLUDED FROM CONTACT TO MATERIALS OR WORKING WITH THIS PRODUCTS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY CONDITIONS OR OTHER ALLERGIC AILMENTS.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: YES

ADDITIONAL CARCINOGENICITY INFORMATION:

Component Diphenylmethane 4,4'-disocyanate CAS# 101-68-8 is a IARC class 3 carcinogen

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>OSHA STEL</u>	<u>WEIGHT %</u>
Isocyanates, reaction product of polyol with methylenediphenyl diisocyanate					
	9048-57-1	NONE	NONE	NONE	30 - 60
Diphenylmethane 4,4'-disocyanate	101-68-8	0.02ppm	0.005ppm	0.20mg/m3	30 - 60
Homopolymer of methylenediphenyl diisocyanate					
	25686-28-6	NONE	NONE	NONE	7 - 13

SECTION 3 NOTES:

toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

EYES:

FLUSH EYES WITH WATER FOR AT LEAST FIFTEEN MINUTES. GET IMMEDIATE MEDICAL ASSISTANCE.

SKIN:

SKIN CONTACT WILL NORMALLY CAUSE NO MORE THAN IRRITATION BUT WASH AFFECTED AREA WITH SOAP AND WATER OR A POLYGLYCOL BASED SKIN CLEANSER AND REMOVE CONTAMINATED CLOTHING PROMPTLY.

INGESTION:

DO NOT INDUCE VOMITING. WASH OUT MOUTH WITH WATER. MOVE EXPOSED PERSON TO FRESH AIR AREA. GET MEDICAL ATTENTION IMMEDIATELY IF SYMPTOMS OCCUR.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND ADMINISTER OXYGEN IF NECESSARY. OBTAIN MEDICAL ASSISTANCE. TREATMENT IS SYMPTOMATIC FOR PRIMARY IRRITATION OR BRONCHOSPASM.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:
SECTION 4 NOTES:

FOR SEVERE EXPOSURE, MEDICAL FOLLOW-UP SHOULD BE MONITORED FOR AT LEAST 48 HOURS.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% by volume)

UPPER: not available
LOWER: not available

FLASH POINT: 200+F

METHOD USED:

SETA FLASH

**EXTINGUISHING MEDIA:**

FOAM, ALCOHOL FOAM, CO₂, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:

USE FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. CONTAINERS MAY BURST UNDER INTENSE HEAT. IF WATER IS USED, VERY LARGE AMOUNTS ARE REQUIRED. REACTION BETWEEN WATER AND ISOCYANATE MAY BE VIGOROUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NO UNUSUAL FIRE HAZARDS KNOWN OTHER THAN REACTION TO WATER CAN BE VIGOROUS.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

WEAR RESPIRATOR AND PROTECTIVE CLOTHING, SHUT OFF THE SOURCE AT THE LEAK. REMOVE EXCESS WITH VACUUM TRUCK AND TAKE UP THE REMAINDER WITH AN ABSORBENT SUCH AS CLAY AND PLACE IN DISPOSAL CONTAINERS. FLUSH AREA WITH A LIQUID DECONTAMINANT. FOR LARGE SPILLS, EVACUATE THE AREA AND TEST ATMOSPHERE FOR MDI

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN A COOL DRY PLACE. SEAL ALL PARTIALLY USED CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS; THEREFORE, READ THE MSDS'S OF ALL THE COMPONENTS PRIOR TO USING MATERIAL. PROPERLY LABEL ALL CONTAINERS

STORE MATERIAL BETWEEN 60-100 F AND KEEP DRY.

OTHER PRECAUTIONS:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS GENERATED FROM THE MATERIAL. OBSERVE CONDITIONS OF GOOD GENERAL HYGIENE AND SAFE WORKING PRACTICES. CONTAMINATED LEATHER ARTICLES CAN NOT BE CLEANED AND MUST BE DISCARDED IF CONTAMINATED WITH THIS PRODUCT. WASH ALL CONTAMINATED CLOTHING PRIOR TO THE REUSE THEREOF.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

USE A NIOSH APPROVED PRESSURE AIR-SUPPLIED RESPIRATOR AS REQUIRED TO PREVENT OVER-EXPOSURE TO VAPOR IN ACCORDANCE WITH 29 CFR 1910.134. CARTRIDGE TYPE RESPIRATORS ARE NOT APPROVED FOR PROTECTION AGAINST DIISOCYANATES.

VENTILATION:

GENERAL EXHAUST IS USUALLY SUFFICIENT TO CONTROL VAPORS AND EXPOSURE HAZARDS. HOWEVER, AREA SHOULD BE MONITORED TO PREVENT EXPOSURE BEYOND THE RECOMMENDED OSHA, ACGIH LIMITS.

PROTECTIVE GLOVES:

IMPERVIOUS GLOVES – NEOPRENE OR RUBBER

EYE PROTECTION:

SPLASH GOGGLES OR GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

WEAR BODY COVERING CLOTHING AND OTHER COVERINGS AS NECESSARY SUCH AS APRON AND APPROPRIATE FOOTWEAR TO AVOID CONTACT WITH MATERIAL.

WORK HYGIENIC PRACTICES:

OBSERVE GOOD GENERAL HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCUPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: MEDIUM VISCOSITY LIQUID

BOILING POINT OR RANGE: >300C decomposes

VAPOR DENSITY (AIR = 1): N/A

SPECIFIC GRAVITY (H₂O = 1): 1.1

EVAPORATION RATE: N/A

SOLUBILITY IN WATER: NEGLIGIBLE

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY


STABILITY:

STABLE AT ROOM TEMPERATURE

CONDITIONS TO AVOID (STABILITY):

AVOID EXCESSIVE HEAT, OPEN FLAMES. DUE TO REACTION WITH WATER, A HAZARDOUS BUILDUP OF PRESSURE COULD RESULT.

INCOMPATIBILITY (MATERIAL TO AVOID):

CAN REACT VIGOROUSLY WITH STRONG OXIDIZING AGENTS AND STRONG LEWIS ACIDS OR MINERAL ACIDS, ALCOHOLS, BASES AND WATER.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

 CO, CO₂, NITROGEN OXIDES, HYDROCARBONS AND HCN

HAZARDOUS POLYMERIZATION:

POLYMERIZATION MAY OCCUR AT ELEVATED TEMPERATURES IN THE PRESENCE OF ALKALIES, TERTIARY AMINES AND METAL COMPOUNDS.

SECTION 11: TOXICOLOGICAL INFORMATION

Component Diphenylmethane 4,4'-disocyanate CAS# 101-68-8 is a IARC class 3 carcinogen

ACUTE TOXICITY:

Ingredient	Test	Endpoint	Species	Result
Diphenylmethane 4,4'-disocyanate	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.49 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	>10000 mg/kg
Homopolymer of methylenediphenyl disocyanate	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.49 mg/l
	OECD 425 Acute Oral Toxicity Up and Down-Procedure	LD50 Oral	Rat - Female	>5000 mg/kg

IRRITATION/CORROSION

Ingredient	Test	Endpoint	Species
Diphenylmethane 4,4'-disocyanate	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin – irritant
	OECD 405 Acute Eye Irritation/Corrosion	Eyes	Non-Irritant
Homopolymer of methylenediphenyl disocyanate	OECD 405 Acute Eye Irritation/Corrosion	Eyes	Non-irritant
	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin – Irritant
	OECD 404 Acute Dermal Irritation/Corrosion	Other	Non Corrosive

**Conclusion/
Summary**
Skin:

Isocyanates, reaction product of polyol with methylenediphenyl disocyanate

No Additional Information



Diphenylmethane 4,4'-disocyanate
Homopolymer of methylenediphenyl disocyanate

irritating to skin

irritating to skin

Eyes:

Isocyanates, reaction product of polyol with methylenediphenyl disocyanate
Diphenylmethane 4,4'-Diisocyanate
Homopolymer of methylenediphenyl disocyanate

No additional Information

Based on the human occupational exposure data, this substance is considered as irritating to eyes.
 irritating to the eyes

Respiratory

Isocyanates, reaction product of polyol with methylenediphenyl disocyanate
Diphenylmethane 4,4'-disocyanate
Homopolymer of methylenediphenyl disocyanate

No additional Information

No additional information

No additional information

Sensitizer

Ingredient	Test	Route of Exposure	Species	Result
Diphenylmethane 4,4'-disocyanate	OECD 429 Skin Sensitization:	Skin	Mouse	Sensitizing
	Local Lymph Node Assay	Skin	Guinea pig	Non sensitizing
	OECD 406 Skin Sensitization	Respiratory	Guinea pig	Sensitizing
Homopolymer of methylenediphenyl disocyanate	No official guidelines			
Homopolymer of methylenediphenyl disocyanate	OECD 406 Skin Sensitization	Skin	Guinea pig	Sensitizing
	No official guidelines	Respiratory	Guinea pig	Sensitizing

Mutagenicity

Ingredient	Test	Result
Diphenylmethane 4,4'-disocyanate	Experiment: In vitro	Negative
	Subject: Bacteria	
	Metabolic activation: +/-	Negative
	Experiment: In vivo	
Homopolymer of methylenediphenyl disocyanate	Subject: Mammalian -Animal	
	Experiment: In vitro	Negative
	Subject: Bacteria	
	Metabolic activation: +/-	Negative
Homopolymer of methylenediphenyl disocyanate	Experiment: In vivo	
	Subject: Mammalian -Animal	



Conclusion/Summary

Diphenylmethane 4,4' -diisocyanate No mutagenic effect.

Carcinogenicity

Ingredient	Test	Species	Dose	Exposure	Result/ Result type
Diphenylmethane 4,4'-disocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat – Male, Female	1 mg/m ³	2 years; 5 days per week	Positive - Inhalation - NOAEL
Homopolymer of methylenediphenyl disocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat – Male, Female	1 mg/m ³	2 years; 5 days per week	Negative - Inhalation - NOAEL

Conclusion/Summary:

Diphenylmethane 4,4' -diisocyanate - No known significant effects or critical hazards.

Teratogenicity

Ingredient	Test	Species	Result/Result Type
Diphenylmethane 4,4'-disocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat – Female	Negative – Inhalation
Homopolymer of methylenediphenyl disocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat – Male, Female	Negative - Inhalation

Conclusion/Summary:

Diphenylmethane 4,4' -diisocyanate No known significant effects or critical hazards

Potential acute health effects

Inhalation : LC₅₀ (rat) : ca. 490 mg/m³ (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns.

This product is a respiratory irritant and potential respiratory sensitiser: 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.

Ingestion : Low oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.

Skin contact : Irritating to skin. May cause sensitisation by skin contact Animal studies have shown that respiratory sensitisation can be induced by skin contact with known respiratory sensitisers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.



Eye contact : Irritating to eyes.

Potential Chronic Health Effects:

Ingredient	Test	Endpoint	Species	Result
Homopolymer of methylenediphenyl diisocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Chronic NO EC Inhalation Dusts and Mists	Rat – Male, Female	0.2 mg/m ³
	OECD 413 Subchronic Inhalation Toxicity: 90-day Study	Sub-chronic NOEC Inhalation Dusts and mists	Rat – Male, Female	<4 mg/m ³

General : No known significant effects or critical hazards.

Target Organs: No known significant effects or critical hazards.

Carcinogenicity: Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m³), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m³ and no effects at 0.2 mg/m³. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Mutagenicity There is no substantial evidence of mutagenic potential. No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations, which are well in excess of defined occupational exposure limits.

Teratogenicity Developmental effects: No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards

Medical conditions aggravated by over-exposure

None known

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects : By comparison with an analogous product, the following values are anticipated. The measured ecotoxicity is that of the hydrolysed product, generally under conditions maximising product ion of soluble species. Even so, the observed ecotoxicity is low/very low. A pond study showed gross contamination caused no significant toxic effects on a wide variety of flora in all trophic levels (including fish), no detectable diaminodiphenylmethane (MDA), and no evidence of bioaccumulation of MDI or MDA.

Aquatic Toxicity

Ingredient	Test	Endpoint	Exposure	Species	Result
Diphenylmethane 4,4'-disocyanate	OECD 202 <i>Daphnia</i> sp. Acute	Acute EC50	25 hours static		



	Immobilisation Test OECD 203 Fish, Acute Toxicity Test OECD 211 <i>Daphnia Magna</i> Reproduction Test	Acute LC50 Chronic NOEC	96 hours static 21 days semi-static		
Homopolymer of methylenediphenyl diisocyanate	OECD 201 Alga, Growth Inhibition Test OECD 201 Alga, Growth Inhibition Test OECD 209 Activated Sludge, Respiration Inhibition Test OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test OECD 203 Fish, Acute Toxicity Test OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC Acute EC50 Acute EC50 Acute EC50 Acute EC50 Acute LC50 Chronic NOEC	72 hours static 72 hours static 3 hours static 24 hours static 96 hours static 21 days semi-static		
Diphenylmethane - 2,4'-diisocyanate	OECD 209 Activated Sludge, Respiration Inhibition Test OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test OECD 203 Fish, Acute Toxicity Test OECD 211 <i>Daphnia Magna</i> Reproduction Test	Acute EC50 Acute EC50 Acute LC50 Chronic NOEC	3 hours static 24 hours static 96 hours static 24 hours semi-static		



	Test				
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Persistence and degradability

Ingredient	Test	Period	Result
Diphenylmethane 4,4' - diisocyanate OECD 302C Inherent Biodegradability: Modified MITI Test (II) 28 days 0 %	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0%
Homopolymer of methylenediphenyl diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0%
Diphenylmethane -2,4' - diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0%

Conclusion/Summary: Diphenylmethane 4,4' -diisocyanate - Not biodegradable

Ingredient	Aquatic half life	Photolysis	Biodegradability
Diphenylmethane 4,4' - diisocyanate OECD 302C Inherent Biodegradability: Modified MITI Test (II) 28 days 0 %	Fresh water 0.83 days	-	Not readily
Homopolymer of methylenediphenyl diisocyanate	Fresh water 0.83 days	-	Not Readily
Diphenylmethane -2,4' - diisocyanate	Fresh water 0.83 days	-	Not Readily

Bioaccumulative Potential

Ingredient	LogP _{ow}	BCF	Potential
Diphenylmethane 4,4' - diisocyanate OECD 302C Inherent Biodegradability: Modified MITI Test (II) 28 days 0 %	4.51	200-	Low
Homopolymer of methylenediphenyl diisocyanate	8.56	-200	Low



Diphenylmethane -2,4' - diisocyanate	4.51	-200	Low
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Mobility in soil:

Mobility By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids. Conversion to soluble products, including diamino- diphenylmethane (MDA), is very low under the optimal laboratory conditions of good dispersion and low concentration. In air, the predominant degradation process is predicted to be a relatively rapid OH radical attack, by calculation and by analogy with related diisocyanates.

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Other adverse effects : No known significant effects or critical hazards.

BOD5 Not Determined

COD Not Determined

TOC Not Determined

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

DISPOSE OF MATERIAL ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION 14: Transport Information

DOT: Not Regulated (single containers less than 5,000 pounds)

IMO/IMDG: Not Regulated

SECTION 15: REGULATORY INFORMATION

Component(s) 4,4' **-DIPHENYLMETHANE DIISOCYANATE CAS# 101-68-8 and Modified MD CAS# NOT LISTED:** This material is classified as hazardous under OSHA hazard communication standard 29 CFR 1910.1200. HCS Classification: Class – Toxic, Irritating substance, Sensitizing substance. Components are on the TSCA list. Canadian Regulations: This product has been classified in accordance with the hazard criteria of the CPR (controlled Products Regulations) Class D-1A Material Causing immediate and serious toxic effects (very toxic). Class D-2A Material causing other toxic effects (Very Toxic). Class D-2b material causing other toxic effects (Toxic).

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

Label requirements

Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. 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. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.

Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

N/A = Not Available

See Section 1 for date of preparation