

## MATERIAL SAFETY DATA SHEET

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

#### MANUFACTURER

GENYK Inc.  
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#### PRODUCT

Trade Name: ISOCYANATE A-2732  
Chemical Name: Polymeric isocyanate  
Chemical family: Isocyanate  
Use: Component of a polyurethane system

Emergency Telephone number: CHEMTREC 800-424-9300 / CANUTEC 613-996-6666

### SECTION 2: HAZARDS IDENTIFICATION

#### PICTOGRAM



#### OSHA/HCS status

This Material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200)  
ACUTE TOXICITY: INHALATION – Category 4  
SKIN CORROSION / IRRITATION – Category 2  
SERIOUS EYE DAMAGE / EYE IRRITATION – Category 1  
SKIN SENSITIZATION – Category 1  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) {Respiratory tract irritation} – Category 3

#### Potential Health Effects

Harmful if inhaled. May cause an allergic skin reaction. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering. May cause allergic respiratory reaction. May cause respiratory tract irritation. May cause lung damage.

#### Carcinogenicity

Suspected of causing cancer.

#### Potential environmental effects

Not expected to be harmful to aquatic organisms.

### SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS	CAS #	%
Diphenylmethane 4,4'-diisocyanate	101-68-8	30 - 60
Polymethylene polyphenyl isocyanate	9016-87-9	60-100

### SECTION 4: FIRST-AID MEASURES

If in eyes	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
If on skin	Remove and isolate contaminated clothing and shoes. For minor skin contact, avoid spreading material on unaffected skin. Wash with plenty of soap and water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim inhaled the substance.

If swallowed	Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.
Note to physician	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

<b>SECTION 5: FIRE-FIGHTING MEASURES</b>	
Flash Point	Closed cup: >150°C (>302°F) Open cup: 230°C (446°F)
Suitable Extinguishing Media	Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Water spray may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.
Hazards during fire-fighting	Combustion products may include : carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN.
Protective equipment for fire-fighting	Firefighters should be equipped with self-contained breathing apparatus.

<b>SECTION 6: ACCIDENTAL RELEASE MEASURES</b>	
Personal Precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the MSDS
Environmental Precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Clean-up	If the product is in its solid form: Spilled MDI flakes should be picked up carefully. The area should be vacuum cleaned to remove remaining dust particles completely. If the product is in its liquid form: Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Shovel into open-top drums for further decontamination. Wash the spillage area with water. Test atmosphere for MDI vapour. Neutralise small spillages with decontaminant. Remove and dispose of residues.  The compositions of liquid decontaminants are given in Section 16. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

<b>SECTION 7: HANDLING AND STORAGE</b>	
Storage Temperature	Store in closed original container at temperatures between 10°C (50°F) and 30°C (86°F). Store away from incompatible materials (see Section 10 of the MSDS).
Handling	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure – obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when no in use. Empty containers retain product residue and can be hazardous.
Safety Precautions in Storage	Store in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. Keep away from moisture. Due to reaction with water producing CO <sub>2</sub> -gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Uncontaminated

	containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Unsuitable containers: Do not store in containers made of copper, copper alloys or galvanized surfaces.
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**SECTION 8: EXPOSURE CONTROL / INDIVIDUAL PROTECTION**

**EXPOSURE LIMIT VALUES**

Ingredients	Diphenylmethane 4,4'-diisocyanate (CAS # 101-68-8)	Polymethylene polyphenyl isocyanate (CAS # 9016-87-9)
	TWA	TWA
US. ACGIH Threshold Limit Values	0.005 ppm	0.005 ppm
Canada Quebec OELs	0.005 ppm	0.005 ppm
Canada Ontario OELs	0.005 ppm	0.005 ppm
Canada Manitoba OELs	0.005 ppm	0.005 ppm
Canada Alberta OELs	0.005 ppm	0.005 ppm
Canada British Columbia OELs	0.005 ppm	0.005 ppm

Note: OELs=Occupational Exposure Limits

**INDIVIDUAL PROTECTION EQUIPMENT**

Respiratory Protection	Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
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.
Skin Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C', Tyvek-Pro 'F' disposable coverall. 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"), Polychloroprene (Neoprene*), Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Fluoroelastomer (Viton*).
General Safety and Hygiene Measures	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. Contaminated gloves should be decontaminated and disposed of. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	Brown liquid
Odour	Musty
Vapor Pressure	0.0001 mmHg at 25°C
Vapor density	N/A
Flash Point	Closed cup: >150°C (>302°F) - Open cup : 230°C (446°F)
Auto-Ignition Temperature	N/A
Solubility in water	Insoluble – reacts slowly with water to liberate CO2 gas.
Lower and upper explosive (flammable) limits	N/A

Auto-ignition temperature	>600°C
Specific Gravity	1.22 – 1.25
Viscosity at 25°C	150 – 250 cps
<b>SECTION 10: STABILITY AND REACTIVITY</b>	
Chemical Stability	Stable under normal conditions.
Reactivity	Reaction with water (moisture) produces CO <sub>2</sub> -gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.
Conditions to avoid	Avoid high temperatures.
Substances to avoid	Water, alcohols, amines, bases and acids.
Hazardous Decomposition Products	Combustion products may include: Carbon oxides (CO, CO <sub>2</sub> ) nitrogen oxides (NO, NO <sub>2</sub> ) hydrocarbons and HCN

<b>SECTION 11: TOXICOLOGICAL INFORMATION</b>	
<b>POTENTIAL ACUTE HEALTH EFFECTS</b>	
Eye Contact	Causes eye damage/ irritation
Skin Contact	Causes skin irritation
Inhalation	May cause allergic respiratory reaction. May cause respiratory tract irritation. May cause lung damage.
Ingestion	Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.
<b>POTENTIAL CHRONIC HEALTH EFFECTS</b>	
Sensitization	May cause allergic skin reaction and allergic respiratory reaction.
Carcinogenic Effects	Suspected of causing cancer
Mutagenic Effects	No data available
Developmental Effects	Not expected to cause developmental effects
Reproductive Effects	Not expected to cause reproductive effects


<b>SECTION 12: ECOLOGICAL INFORMATION</b>	
Ecotoxicological data	No ecotoxicity data noted for the ingredients.
Ecotoxicity	Not expected to be harmful to aquatic organisms.
Environmental effects	The product is not classified as environmentally hazardous.
Mobility in soil	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.

<b>SECTION 13: DISPOSAL INFORMATION</b>	
Waste Disposal Method	The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional I

	ocal authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Empty Containers Disposal	Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14: TRANSPORTATION INFORMATION**

DOT	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate)
Land Transport TDG	Not regulated as dangerous good.
Sea Transport IMDG	Not regulated as dangerous good.
Air Transport IATA/ICAO	Not regulated as dangerous good.

Regulatory Information	UN number	Classes	PG*	Label	Additional Information
DOT Classification	NA3082	9	III		Reportable quantity 5000 lbs (2270 kg). Single containers less than 5,000 lbs. are not regulated
TDG Classification	Not regulated	-	-		-
IMDG Classification	Not regulated	-	-		-
IATA Classification	Not regulated	-	-		-

PG\* : Packing group

**SECTION 15: REGULATORY INFORMATION**

WHMIS	WHMIS Class D-2A: Material causing other toxic effects (very toxic). WHMIS Class D-2B: Material causing other toxic effects (toxic).
CEPA (DSL)	All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**SECTION 16: INFORMATION**

HMIS Rating (0=minimal/1=slight/2=moderate/3=serious/4=severe)	Health	2
	Fire Hazard	1
	Physical Hazard	1

National Fire Protection Association (U.S.A.)



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Copyright©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classification in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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 presents health hazards. (see supplier safety information).

ISOPA Guidelines for safe Loading/Unloading, transportation, Storage of TDI and MDI, Ref.03+96 PSC-0005-GUIDL. SPI PMDI User Guidelines for the Chemical Protective Clothing Selection.

References of methods used in the Physico-Chemical Properties section are reported in Annex V part A to Commission Directive 92/69/EEC of 31 July 1992 adapting to technical progress for the Seventeenth time Council Directive 67/548/EEC.

The information provided in this 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. It is not to be considered a warranty or quality specification.

Prepared by

Genyk Inc.

Date

Novembre 2018