

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER

GENYK Inc.
1701, 3rd Avenue, Shawinigan, QC, G9T2W6
Phone: 819-729-0395 / Fax: 819-729-0383

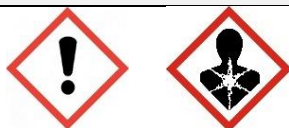
PRODUCT

Trade Name: B-5023 RESIN
Chemical Name: Polyurethane Resin
Chemical family: Polyol Resin Blend
Use: Component of a polyurethane system

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

SECTION 2: HAZARDS IDENTIFICATION

PICTOGRAM



Potential Health Effects

Eye Contact: Vapours may cause glauropsia and blurred vision.
Skin Contact: May cause irritation and dermatitis.
Inhalation: May cause headaches, dizziness, drowsiness.
Ingestion: May cause irritation to throat, esophagus and stomach and may cause gastrointestinal disturbances.

Carcinogenicity

The components of this product are not listed by IARC or regulated as a carcinogen by OSHA.

Emergency Overview

Irritating to eyes, respiratory system and skin. May be harmful if swallowed.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS	CAS #	%
Mix of Polyols	N/A	40 - 60
Amine Polyol	940912-28-7	10 - 30
Mix of Tertiary Amines	N/A	2.0 – 6.5
Tris-Iso-Chloropropyl Phosphate	13674-84-5	8 - 12
1,1,1,3,3-Pentafluoropropane	460-73-1	5 - 20
1,1,1,3,3-Pentafluorobutane	406-58-6	4 - 12
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	1 - 5

SECTION 4: FIRST-AID MEASURES

If in eyes	In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.
If on skin	Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.
If inhaled	Move the affected person to fresh air. Assist in breathing if necessary. Immediate medical attention required.
If swallowed	Rinse mouth immediately and drink 200 –300 ml of water, seek medical attention. Do not induce vomiting.
Note to physician	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: FIRE-FIGHTING MEASURES

Flash Point	>93°C (> 200°F)
Suitable Extinguishing Media	Water spray, dry powder, carbon dioxide, foam.

Hazards during fire-fighting	No particular hazards known.
Protective equipment for fire-fighting	Firefighters should be equipped with self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Personal Precautions	Avoid breathing vapours. Provide adequate ventilation and use suitable protective equipment.
Environmental Precautions	Do not discharge into drains/surface water/groundwater.
Clean-up	Cover with an absorbent product, scoop up and put in suitable containers for disposal. Do not throw residues in the sewer. Dispose via a licensed waste disposal company. Wash the spill area with soap and water.

SECTION 7: HANDLING AND STORAGE	
Storage Temperature	15 – 25 °C (59 – 77 °F)
Storage Life	6 months
Handling	Do not inhale vapors. Avoid contact with skin and eyes. Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Use only with adequate ventilation and wear appropriate respirator when ventilation is inadequate. Keep the product in the original container or an approved alternative made from a compatible material; keep tightly closed and sealed until ready for use.
Safety Precautions in Storage	Store in a dry, well-ventilated area and in tightly closed containers. Avoid extreme heat and store away from frost.

SECTION 8: EXPOSURE CONTROL / INDIVIDUAL PROTECTION		
EXPOSURE LIMIT VALUES		
Ingredients	WEEL (AIHA) (TWA) – 8 hr	OSHA PEL (TWA) – 8 hr
Polyol Blend	N/A	N/A
Tris-Iso-Chloropropyl Phosphate	N/A	N/A
1,1,1,3,3-Pentafluoropropane	300 ppm	N/A
1,1,1,3,3-Pentafluorobutane	1000 ppm	N/A
1,1,1,2,3,3,3-Heptafluoropropane	1000 ppm	N/A
INDIVIDUAL PROTECTION EQUIPMENT		
Respiratory Protection	Wear a NIOSH approved, legally approved respiratory protection device when necessary and especially in cases where exposure standards may be excessive.	
Eye Protection	Use appropriate chemical goggles or face shields. Do not wear contact lenses when working with this product.	
Skin Protection	Wear chemical resistant gloves and protective clothing.	
General Safety and Hygiene Measures	Wash soiled clothing immediately.	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Yellow to amber liquid.
Odour	Slight amine odour
Vapor Pressure	N/A
Vapor density	4.6 (1,1,1,3,3 – Pentafluoropropane)
Flash Point	>93 °C (>200°F)
Auto-Ignition Temperature	N/A
Specific Gravity	1.16 to 1.22
Solubility in Water	Moderate
SECTION 10: STABILITY AND REACTIVITY	
Chemical Stability	The product is chemically stable.
Reactivity	No dangerous reactions under normal storage and handling conditions.
Conditions to avoid	Avoid exposure to moisture and low (<0°C) and high temperatures. Avoid open flame.
Substances to avoid	Strong oxidizing and reducing agents.

Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Corrosion to Metals	No corrosive effect on metal.

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL ACUTE HEALTH EFFECTS

Eye Contact	Product liquids and vapours are irritating. Vapors may cause glaucopsia and blurred vision.
Skin Contact	May cause irritation and dermatitis.
Inhalation	May cause headaches, dizziness.
Ingestion	May cause irritation to throat, esophagus and stomach and may cause gastrointestinal disturbances.

POTENTIAL CHRONIC HEALTH EFFECTS

Sensitization	Not known or reported.
Carcinogenic Effects	The components of this product are not listed by IARC or regulated as a carcinogen by OSHA.
Mutagenic Effects	Not known or reported.
Developmental Effects	Not known or reported.
Reproductive Effects	Not known or reported.

SECTION 12: ECOLOGICAL INFORMATION

Ecological testing has not been conducted for this product.

Aquatic Toxicity	Can be harmful in large quantities to aquatic organisms. The product has not been tested; the indication is derived from the properties of individual components.
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SECTION 13: DISPOSAL INFORMATION

Waste Disposal Method	Waste must be disposed of in compliance with federal, state, provincial and local environmental control regulations. Dispose of via licensed waste disposal company.
Empty Containers Disposal	Containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

Technical Name	B-5023 Resin
Land Transport TDG	Not classified as a dangerous good under transport regulations.
Sea Transport IMDG	Not classified as a dangerous good under transport regulations.
Air Transport IATA/ICAO	Not classified as a dangerous good under transport regulations.

SECTION 15: REGULATORY INFORMATION

WHMIS	Class D-2B / Material causing other toxic effects (toxic)
CEPA (DSL)	All components are listed in the Domestic Substances List.

SECTION 16: INFORMATION

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

This product does not contain ozone depleting substances

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	October 2018

MATERIAL SAFETY DATA SHEET

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MANUFACTURER

GENYK Inc.
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Phone: 819-729-0395 / Fax: 819-729-0383

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.

SECTION 5: FIRE-FIGHTING MEASURES	
Flash Point	Closed cup: >150°C (>302°F) Open cup: 230°C (446°F)
Suitable Extinguishing Media	Foam. Dry chemical powder. Carbon dioxide (CO ₂). 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES	
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.

SECTION 7: HANDLING AND STORAGE	
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 ₂ -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
SECTION 10: STABILITY AND REACTIVITY	
Chemical Stability	Stable under normal conditions.
Reactivity	Reaction with water (moisture) produces CO ₂ -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 ₂) nitrogen oxides (NO, NO ₂) hydrocarbons and HCN

SECTION 11: TOXICOLOGICAL INFORMATION	
POTENTIAL ACUTE HEALTH EFFECTS	
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.
POTENTIAL CHRONIC HEALTH EFFECTS	
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


SECTION 12: ECOLOGICAL INFORMATION	
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.

SECTION 13: DISPOSAL INFORMATION	
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.

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Prepared by

Genyk Inc.

Date

Novembre 2018