Safety Data Sheet
LIQUID FLOW EPOXY RESIN

SECTION 1: PRODUCT AND COMPANY INFORMATION

Manufacturer	Indcon, Inc. P.O. Box 8357, Greenville, SC 29604		
Telephone	864-298-8300	**Fax**	Not Applicable
Product Name(s)	Liquid Flow Epoxy Resin	**Product ID #**	4106
Chemical Family	Epoxy Resin	**CAS Number**	Mixture
Emergency Contact / Number	24 HOUR CHEMTREC 800-424-9300		

SECTION 2: HAZARD IDENTIFICATION


Hazards

Sensitization, Skin	Category 1 – May causes an allergic skin reaction
Skin Corrosion/Irritation	Category 2 – Causes skin irritation
Respiratory	Category 3 – May caus respiratory irritation
Serious Eye Damage/Eye Irritation	Category 2A – Causes serious eye irritation
Germ Cell Mutagenicity	Category 2 – Suspected of causing genetic defects
Carcinogenicity	Category 2 – Suspected of causing cancer
Reproductive Toxicity	Category 2 – Suspected of damaging fertility or the unborn child
Hazardous to the aquatic environment, acute hazard	Category 2 – Toxic to aquatic life
Hazardous to the aquatic environment, long-term hazard	Category 2 – Toxic to aquatic life with long lasting effects

Signal Word WARNING

Precautionary Statements

Avoid breathing fumes, vapors or spray. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective eye and face protection, gloves and clothing.
IF ON SKIN: Wash with soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do so - continue rinsing.
If eye irritation persists: Get medical advice or attention.
If skin irritation or a rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse. Collect spillage. Dispose of contents/container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#	Component Range
Bis A epoxy resin	25085-99-8	15 - 35
Butyl Glycidyl Ether	2426-08-6	2 - 8
Alkyl phenol	84852-15-3	<2.5
Triphenyl Phosphite	101-0200	<2.5

SECTION 4: FIRST AID MEASURES

Eye Contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Skin Contact

Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Ingestion

Remove victim to fresh air. If unconscious, place in a comfortable position and get medical attention immediately. Never give anything by mouth to an unconscious person. If conscious wash out mouth with water and give small quantities of water to drink. Stop if the exposed person feels sick. Do not induce vomiting unless directed to do so by medical personnel because of the danger of aspiration into the lungs. If

vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe.

Inhalation
Remove victim to fresh air and keep at rest in a comfortable position for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Provide artificial respiration by trained personnel if victim is not breathing, breathing is irregular or respiratory arrest occurs. It may be dangerous for the rescuer to give mouth-to-mouth resuscitation. Get medical attention or advice.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media
Alcohol resistant foams (AIC type) are preferred. Water fog or fine spray, dry chemical or carbon dioxide fire extinguishers. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Use water fog to cool fire-exposed containers, structures and to protect personnel. Do not use a direct water stream which may spread fire.
Special Firefighting Procedures
Clear fire area of unprotected and untrained personnel. Do not enter confined fire space without full equipment and a positive pressure NIOSH approved self-contained breathing apparatus.
Unusual Firefighting Hazards
Smoke from the fire may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include carbon dioxide, carbon monoxide and toxic gases.

SECTION 6: ACCIDENTAL RELEASE MEASURES

See Section 8 for Personal Protection Measures

Personal Precautions
Isolate release area and keep unnecessary or untrained people away. Spilled material may be slippery. Avoid contact with spilled material.
Environmental Precautions
Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Advise EPA, state or local agencies as required.
Methods for Cleaning Up
Contain spilled material if possible to do safely. Absorb with materials such as sand, polypropylene or polyethylene fiber products. Remove residual with soap and hot water. Collect in suitable and properly labeled containers. Residual can be removed with solvent. Use of large amounts of solvents is not recommended for clean-up unless the recommended exposure guidelines and safe handling practices for the specific solvent are known and followed. Consult solvent Safety Data Sheet for handling information and exposure guidelines.

SECTION 7: HANDLING AND STORAGE

See Section 8 for Personal Protection Measures

Handling
Keep in closed, marked containers. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Do not smoke, eat or drink while using product. Wash thoroughly after handling, before use of restroom or end of work assignment. Avoid use of electric band heaters. Failures of electric band heaters have been reported to cause drums of liquid epoxy resin to explode and catch fire. Application of a direct flame to a container of liquid epoxy resin can also cause explosion and/or fire.
Storage
Keep away from heat, sparks and flame. Keep container closed when not in use.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits

Component Name	ACGIH TLV-TWA	OSHA PEL-TWA
Not Applicable		

Engineering Controls
Use appropriate ventilation to maintain good quality air conditions. Have eye wash stations and safety showers readily available.
Eye and Face Protection
Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection
Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield as appropriate to the work assignment.

Respiratory Protection
Use NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister where airborne concentrations are unknown or expected to be high. Protection provided by air purifying respirators is limited. 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State	Gray viscous liquid	**Flash Point**	210 °F
Specific Gravity (Water=1)	1.87	**Upper Flammability Limits**	Not Determined
Evaporation Rate	Not Determined	**Lower Flammability Limits**	Not Determined
pH	Not Applicable	**Auto-ignition Temperature**	Not Determined
Solubility in Water	Negligible	**Decomposition Temperature**	Not Determined
Odor	Slightly aromatic	**Vapor Pressure**	Not Determined
Odor Threshold	Not Determined	**Vapor Density (Air-=1)**	>1
Melting/Freezing Point	Not Determined	**Partition Coefficient (n-octanol/water)**	Not Determined
Boiling Range	560 – 570 °F	**Viscosity** (cSt , 40 °C)	Not Determined
Initial Boiling Point	Not Determined	**Critical Temperature**	Not Determined
Note: Physical and chemical properties are provided for safety, health and environmental considerations and do not fully represent product specifications. Those should be requested separately.			

SECTION 10: STABILITY AND REACTIVITY

Stability
Stable under normal conditions of storage and handling.
Conditions to Avoid
Avoid contact with amines, anhydrides, acids and oxidizers.
Hazardous Decomposition / Byproducts
Unlikely to occur except in the event of fire. Expected by-products in incomplete pyrolysis or combustion are mainly phenolics, carbon monoxide and water. Thermal decomposition products should therefore be treated as potentially hazardous substances and appropriate precautions should be taken.
Hazardous Polymerization
Will not occur under normal conditions.
Polymerization Conditions to Avoid
Not Applicable

SECTION 11: TOXICOLOGICAL INFORMATION

Specific toxicity tests have not been conducted on this mixture. In accordance with OSHA's Hazard Communication Standard 1910.1200, this mixture is assumed to have the same health hazards as its significant components.
Eye Contact
May cause irritation, watering or redness.
Skin Contact
Prolonged or repeated contact may cause skin irritation with local redness.
Ingestion
The toxicity based on that of the major ingredients is expected to be low.
Inhalation
Room temperature material has a low vapor pressure and little likelihood of being inhaled; heated material may cause respiratory irritation.
Target Organ Effects
None expected.
Chronic Effects
None known
Carcinogenicity
Components at levels above 0.1% are not found to be carcinogens by NTP, OSHA or IARC.

SECTION 12: ECOLOGICAL INFORMATION

Do not allow material to contact soil, enter sewers or any body of water.

Ecotoxicity The major ingredient is moderately toxic to aquatic organisms on an acute basis; also potentially toxic to aquatic organisms with long term adverse effects.

Mobility Not Determined

Degradability Components of this product may persist in the environment.

Bioaccumulation Not Determined

SECTION 13: DISPOSAL CONSIDERATION

Dispose of this product in compliance with all applicable federal, state and local regulations. Empty containers may contain residues.

SECTION 14: TRANSPORT INFORMATION

Proper Shipping Name Not Regulated

SECTION 15: REGULATORY INFORMATION

Federal

TSCA Status
All components are listed in the TSCA inventory
SARA 311/312 Reporting Categories
Acute hazard
SARA 313 Reportable Ingredients
None

State Lists

Pennsylvania Right-to-Know – Components not listed
California Proposition 65 – Components not listed

SECTION 16: OTHER INFORMATION

HMIS Rating 1-1-0

Department Issuing SDS Health and Safety

Disclaimer

This information is correct and accurate to the best of Indcon's knowledge; however, Indcon, Inc. assumes no liability whatsoever for the continued accuracy and completeness of the information contained herein. For specific information regarding occupational safety health standards please refer to the Code of Federal Regulations Title 29 and all relevant state regulations and laws. The user has the sole responsibility for the final determination of suitability of any material. All materials may present known and unknown health hazards and should be used with caution. With regard to his or her particular use the user should be sure that he or she has all current and relevant data for their particular use. CAUTION: Always keep our of the reach of children.

Safety Data Sheet
LIQUID FLOW EPOXY HARDENER

SECTION 1: PRODUCT AND COMPANY INFORMATION

Manufacturer	Indcon, Inc. P.O. Box 8357, Greenville, SC 29604		
Telephone	864-298-8300	**Fax**	Not Applicable
Product Name(s)	Liquid Flow Epoxy Hardener	**Product ID #**	4107
Chemical Family	Epoxy Resin	**CAS Number**	Mixture
Emergency Contact / Number	24 HOUR CHEMTREC 800-424-9300		

SECTION 2: HAZARD IDENTIFICATION

Hazards

Acute Toxicity, oral	Category 4 – Harmful if swallowed
Acute Toxicity, skin	Category 4 – Harmful in contact with skin
Respiratory	Category 4 – Harmful if inhaled
Skin Corrosion/Irritation	Category 1A – Causes severe skin burns and eye damage
Serious Eye Damage/Eye Irritation	Category 1 – Causes serious eye damage
Sensitization, Skin	Category 1 – May cause an allergic skin reaction
Hazardous to the aquatic environment, acute hazard	Category 1 – Very toxic to aquatic life
Hazardous to the aquatic environment, long-term hazard	Category 1 – Very toxic to aquatic life with long lasting effects

Signal Word DANGER

Precautionary Statements

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes or vapors. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and clothing, eye and face protection. Use personal protective equipment as required.
IF exposed or concerned: get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water, shower.
If skin irritation or a rash occurs: Get medical advice/attention.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Wash contaminated clothing before reuse. Collect spillage. Store locked up. Dispose of contents/container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#	Component Range
Polyoxyalkyleneamine	9046-10-0	15 – 35
Triethylenetetramine reaction product with propylene oxide	26950-63-0	15 – 35
Amines, polyethylenepoly-HEPA	68131-73-7	15 – 35
Benzyl alcohol	100-51-6	15 – 35
Triethylenetetramine	112-24-3	2 – 12
Diethylenetriamine	111-40-0	2 - 12

SECTION 4: FIRST AID MEASURES

Eye Contact

Can cause serious eye damage. Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Skin Contact

Can cause severe burns. Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse.

Ingestion
May cause burns to mouth, throat and stomach. Do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Inhalation
Vapors may be irritating or corrosive. Remove victim to fresh air and keep at rest in a comfortable position for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Provide artificial respiration by trained personnel if victim is not breathing, breathing is irregular or respiratory arrest occurs. It may be dangerous for the rescuer to give mouth-to-mouth resuscitation. Get medical attention or advice.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media
Alcohol foam, water fog, dry chemical or carbon dioxide fire extinguishers. Use water fog to cool fire-exposed containers, structures and to protect personnel. Do not use a direct water stream which may spread fire.
Special Firefighting Procedures
Clear fire area of unprotected and untrained personnel. Do not enter confined fire space without full equipment and a positive pressure NIOSH approved self-contained breathing apparatus.
Unusual Firefighting Hazards
Smoke from the fire may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include carbon dioxide, carbon monoxide and toxic gases.

SECTION 6: ACCIDENTAL RELEASE MEASURES

See Section 8 for Personal Protection Measures

Personal Precautions
Isolate release area and keep unnecessary or untrained people away. Avoid contact with spilled material.
Environmental Precautions
Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Advise EPA, state or local agencies as required.
Methods for Cleaning Up
Contain spilled material if possible to do safely. Absorb with materials such as sand, polypropylene or polyethylene fiber products. Collect in suitable and properly labeled containers for disposal or reuse.

SECTION 7: HANDLING AND STORAGE

See Section 8 for Personal Protection Measures

Handling
Keep in closed, marked containers. Avoid contact with eyes and skin. Do not smoke, eat or drink while using product. Wash thoroughly after handling, before use of restroom or end of work assignment.
Storage
Keep away from heat, sparks and flame. Keep container closed when not in use.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits

Component Name	ACGIH TLV-TWA	OSHA PEL-TWA
Not Applicable		

Engineering Controls
Use appropriate ventilation to maintain good quality air conditions. Have eye wash stations and safety showers readily available.
Eye and Face Protection
Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection
Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield as appropriate to the work assignment.
Respiratory Protection

Use NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister where airborne concentrations are unknown or expected to be high. Protection provided by air purifying respirators is limited. 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State	Clear liquid	**Flash Point (PMCC)**	250 °F
Specific Gravity (Water=1)	1.01	**Upper Flammability Limits**	Not Determined
Evaporation Rate	<Butyl acetate	**Lower Flammability Limits**	Not Determined
pH	Not Applicable	**Auto-ignition Temperature**	Not Determined
Solubility in Water	Partial	**Decomposition Temperature**	Not Determined
Odor	Strong ammonia	**Vapor Pressure**	Not Determined
Odor Threshold	Not Determined	**Vapor Density (Air-=1)**	>1
Melting/Freezing Point	Not Determined	**Partition Coefficient (n-octanol/water)**	Not Determined
Boiling Range	394 – 570 °F	**Viscosity** (cSt , 40 °C)	Not Determined
Initial Boiling Point	Not Determined	**Critical Temperature**	Not Determined
Note: Physical and chemical properties are provided for safety, health and environmental considerations and do not fully represent product specifications. Those should be requested separately.			

SECTION 10: STABILITY AND REACTIVITY

Stability
Stable under normal conditions of storage and handling.
Conditions to Avoid
Avoid contact with epoxies, isocyanates, acids.
Hazardous Decomposition / Byproducts
Unlikely to occur except in the event of fire. Nitrogen and carbon oxides may be formed in the event of overheating or incomplete combustion.
Hazardous Polymerization
Will not occur under normal conditions.
Polymerization Conditions to Avoid
Not Applicable

SECTION 11: TOXICOLOGICAL INFORMATION

Specific toxicity tests have not been conducted on this mixture. In accordance with OSHA's Hazard Communication Standard 1910.1200, this mixture is assumed to have the same health hazards as its significant components.
Eye Contact
Product is corrosive to the eyes.
Skin Contact
Product is corrosive to the skin.
Ingestion
Harmful if swallowed.
Inhalation
May give off gas, vapor that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Carcinogenicity
Components at levels above 0.1% are not found to be carcinogens by NTP, OSHA or IARC.

SECTION 12: ECOLOGICAL INFORMATION

Do not allow material to contact soil, enter sewers or any body of water.
Ecotoxicity Very toxic to aquatic organisms with long term effects
Mobility Not Determined
Degradability Not Determined
Bioaccumulation Not Determined

SECTION 13: DISPOSAL CONSIDERATION

Dispose of this product in compliance with all applicable federal, state and local regulations. Empty containers may contain residues.

SECTION 14: TRANSPORT INFORMATION

Proper Shipping Name UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (POLYOXYPROPYLENEDIAMINE, POLYETHYLENE POLYAMINES), Class 8, PGIII

SECTION 15: REGULATORY INFORMATION

Federal

TSCA Status
All components are listed in the TSCA inventory
SARA 311/312 Reporting Categories
Acute hazard
SARA 313 Reportable Ingredients
None

State Lists

Pennsylvania Right-to-Know – Components not listed
New Jersey Right-to-Know – Components not listed
California Proposition 65 – Components not listed

SECTION 16: OTHER INFORMATION

HMIS Rating 4-1-0

Department Issuing SDS Health and Safety

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