

Safety Data Sheet

Date Issued: 4/4/2016

Version: 2.0

1. CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Product Names/Trade Names: Indu-Crete Part A

Chemical Family: Polyalcohol Emulsion

Manufacturer's Name: Indue Sales & Services, Inc.
2800 Enloe Street
Hudson, WI 54016
General Contact #: 1-800-577-6213 (8am – 5pm Central Time)

Company 24 Hour Emergency Response Information: INFOTRAC 1-800-535-5053

In the event of emergency involving a spill, leak, fire, exposure, or accident call INFOTRAC emergency number. All general questions should be directed to customer service.

2. HAZARDS IDENTIFICATION

Emergency Overview: Caution! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.

Target Organs: No data found.

Hazard classification:

NON HAZARDOUS; NON DANGEROUS GOODS

Non dangerous goods for transport according to the ADG code.

Non Hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) regulations 2001 and NOHSC

Classification of the product

Eye Irrit. 2B H320 (Eye Irritation) Causes eye irritation

Label elements

Signal Word: Warning

Pictogram:

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**Hazard Statements:**

H320 Causes eye irritation

Precautionary Statements:

P264 Wash exposed areas thoroughly after handling

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.

Potential Acute Health Effects: Repeated exposure may result in slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

General Information: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Read the entire SDS for a more thorough evaluation of the hazards.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	% By Weight	CAS Number
Polyalcohol Emulsion	80%	Non Hazardous
Pigments	1-5%	N/A
Aromatic Sulfonic Acid	15-20%	70775-94-9
Alcohol Ethoxylated	<1%	68439-46-3

4. FIRST-AID MEASURES

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

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Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Rinse mouth. Drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

5. FIRE-FIGHTING MEASURES

Suitable Fire Extinguishing Media: Dry chemical. Water spray. Water fog. Foam.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Specific hazards: Not available

Precautions for fire fighters: Appropriate breathing apparatus may be required. Cool endangered containers with water in case of fire. Do not allow quenching water into sewers or waterways. Wear pressure-demand self-contained breathing apparatus (MSHA/NIOSH-approved or equivalent) and full protective gear.

Flammable Limits: Not available.

Explosion Limits: Not Available

Auto-Ignition Temperature: 449°C (840.2°F)

Flash Points: Open Cup: 282°C (540°F).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: No action shall be taken involving any personal risk or without suitable training.

Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform authorities if the product has caused environmental pollution (sewers, drains, waterways or soil).

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Methods for Cleaning up: Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment, PPE (see Section 8). Eating and drinking should be prohibited in areas where this material is handled, stored and processed. Remove contaminated PPE or clothing, wash hands and face before eating and drinking. Use only in area provided with appropriate exhaust ventilation. Empty containers retain product residue and can be hazardous. Do not get in eyes, skin or clothing. Do not ingest. Avoid release to the environment.

Storage: Store between 4 to 40°C (40 to 104°F) in accordance with local regulations away from sources of heat, ignition, and direct sunlight. Store in original container. Keep in a dry, well-ventilated area, and away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled, unapproved or reactive containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Special Note for Exposure Control: Consult local authorities for acceptable exposure limits.

OSHA PEL (TWA): Not Determined

ACGIH TLV (TWA): Not Determined

NIOSH REL (TWA): Not Determined

Engineering measures: Work in well-ventilated area. Provide natural or explosion-proof fan to ensure adequate ventilation, especially in confined area. Avoid contact with skin, eyes, and clothing.

Environmental exposure controls: Construct a dike to prevent spreading. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating and drinking, smoking or using the lavatory and at the end of the working period. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection:

Respiratory - In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eyes – Splash proof safety glasses.

Skin - Rubber or plastic apron. Rubber or plastic gloves. Long sleeved clothing or wear protective sleeves. Remove and wash contaminated clothing before re-use.

Other protective equipment information - Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Neoprene gloves. PVC disposable gloves. Nitrile rubber. Butyl-rubber. Impervious gloves. (The breakthrough time of the selected glove(s) must be greater than the intended use period.)

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Odor:	Soap Like
Color:	Various colors
PH Value:	7
Boiling Point:	313°C (595.4°F)
Vapor Pressure (25°C):	Not Applicable
Density:	8.55 lb/US gallon
Solubility in water:	Insoluble
Evaporation Rate (Butyl Acetate = 1):	Not Applicable
Volatile Organic Compounds:	Nil

10. STABILITY AND REACTIVITY

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Chemical stability: Stable under normal conditions. Hazardous reactions will not occur.

Conditions to avoid: Excessive heat.

Materials to avoid: Not Available

Hazardous decomposition products: Not Available

Hazardous polymerization: Under normal conditions hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin. Eye contact. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with federal, state and local regulations. The generation of waste should be avoided or minimized wherever possible. Empty containers should be taken to an approved waste handling site for recycling or disposal. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

DOT Classification: Not a hazardous material (United States).

15. REGULATORY INFORMATION

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Country	Regulatory List	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on Inventory
Canada	DSL	Included on Inventory

U.S. Federal Regulations:

OSHA: This product is considered non-hazardous.

CERCLA SARA Hazard Category:

Section 311 AND 312 - This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: None

Section 313 - This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

U.S. State Regulations:

California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) - This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

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

16. OTHER INFORMATION

Hazardous Material Information System (HMIS):

<i>Scale 0-4</i>		<i>NFPA</i>	<i>HMIS</i>
4=Severe Hazard	Health	1	1
3=Serious Hazard	Flammability	1	1
2=Moderate Hazard	Reactivity	0	0
1=Slight Hazard			
0=Minimal Hazard			

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DISCLAIMER: The data in this safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. The information is believed to be correct as of the date issued. Since the use of this information and the conditions of use of the product are not within the control of Indue Sales & Services, Inc., it is the user's obligation to determine for safe use and disposal of the product and to follow the appropriate safe procedures.

End of Data Sheet

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Date Issued: 03/31/2016

Version: 2.0

1. CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Product Names/Trade Names: Indu-Crete Part B

Chemical Family: Aromatic Isocyanates

Manufacturer's Name: Indue Sales & Services, Inc.

2800 Enloe Street

Hudson, WI 54016

General Contact #: 1-800-577-6213 (8am – 5pm Central Time)

Company 24 Hour Emergency Response Information: INFOTRAC 1-800-535-5053

In the event of emergency involving a spill, leak, fire, exposure, or accident call INFOTRAC emergency number. All general questions should be directed to customer service.

2. HAZARDS IDENTIFICATION

Emergency Overview: DANGER - CONTAINS DIPHENYLMETHANE DIISOCYANATE (CAS No. 101-68-8). INHALATION OF MDI MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT, AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING.

Classification of the product

Acute Tox.	4	(Inhalation - mist) Acute toxicity
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation
Skin Corr./Irrit.	2	Skin corrosion/irritation
Skin Sens.	1B	Skin sensitization
Resp. Sens.	1	Respiratory sensitization
Carc.	2	Carcinogenicity

Label elements

Hazardous components which must be listed on the label

Contains: 4,4'-Diphenylmethane Diisocyanate

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Signal Word: Danger

Pictogram:



Hazard Statement:

- H320 Causes eye irritation.
- H315 Causes skin irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

- P2 0 Wear protective gloves/protective clothing/eye protection/face protection.
- P271 Use only outdoors or in a well-ventilated area.
- P260 Do not breathe dust/gas/mist/vapors.
- P201 Obtain special instructions before use.
- P261 Avoid breathing mist.
- P202 Do not handle until all safety precautions have been read and understood.
- P2 4 In case of inadequate ventilation wear respiratory protection.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P305+P351+P333 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
- P314 Get medical advice/attention if you feel unwell.
- P303+P362 IF ON SKIN (or hair): Wash with plenty of soap and water.
- P333+P311 If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
- P362+P364 Take off contaminated clothing and wash before reuse.
- P332+P313 If skin irritation occurs: get medical advice/attention.
- P337+P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

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Potential health effects:

Primary routes of exposure - Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute toxicity - Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat or breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Airborne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Irritation - Eye contact with isocyanates may result in conjunctival irritation and mild corneal opacity. Skin contact may result in dermatitis, either irritative or allergic.

Repeated dose toxicity - Information on MDI: Results from a lifetime inhalation study in rats indicate that MDI aerosol was carcinogenic at 6mg/m³, the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 mg/m³). Only irritation was noted at the lower concentration of 0.2 and 1 mg/m³. No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12 mg/m³ polymeric MDI for 6 hr/day on days 6-15 of gestation. Embryotoxicity and fetotoxicity was reported at the top dose in the presence of maternal toxicity.

Medical conditions aggravated by overexposure - The isocyanates component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing.

Persons with history of respiratory disease or hypersensitivity should not be exposed to this product.

An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure.

Medical supervision of all employees who handle or come into contact with isocyanates is recommended.

Preemployment and periodic medical examinations with respiratory function tests (FEV₁, FVC as a minimum) are suggested.

Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

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Contact may aggravate pulmonary disorders.

General Information: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Read the entire SDS for a more thorough evaluation of the hazards.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	% By Weight	CAS Number
Polymeric Diphenylmethane Diisocyanate	35-50%	9016-87-9
4,4'-Diphenylmethane Diisocyanate	20-35%	101-68-8
MDI Mixed Isomers	20-35%	26447-40-5

4. FIRST-AID MEASURES

General advice: Seek medical advice.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes.

Skin contact: Immediately remove any extraneous chemical, if possible without delay. Take off contaminated clothing and shoes immediately. Wash body off with soap and plenty of water.

Ingestion: Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position and turn victim's head to the side. **Do not induce vomiting.**

Inhalation: Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Note to physician:

Antidote: Specific antidotes or neutralizers to isocyanates do not exist.

Treatment: Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient.

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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, Carbon dioxide, Foam

Flammable Limits: Not Available

Explosion Limits: Not Available

Auto-ignition: 240°C (464°F)

Flash point: 200°C (392°F) [DIN 51758 EN 22719 (Pensky-Martens Closed Cup)]

Hazards during fire-fighting: Nitrous gases, carbon dioxide, carbon monoxide, isocyanates, vapor

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information: Do not allow run-off from firefighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions: Do not discharge into drains/surface waters/groundwater.

Cleanup: Dike spillage.

For small amounts: Absorb isocyanates with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanates vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup - wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

7. HANDLING AND STORAGE

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Handling: Put on appropriate personal protective equipment, PPE (see Section 8). Eating and drinking should be prohibited in areas where this material is handled, stored and processed. Remove contaminated PPE or clothing, wash hands and face before eating and drinking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Use only in area provided with appropriate exhaust ventilation. Empty containers retain product residue and can be hazardous. Do not get in eyes, skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment.

Storage: Store between 4°C to 27°C (40 to 80°F) in accordance with local regulations away from sources of heat, ignition, and direct sunlight. Store in original container. Keep in a dry, well-ventilated area, and away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled, unapproved or reactive containers. Use appropriate containment to avoid environmental contamination.

Special Handling: If bulging of drum occurs, transfer to well-ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters:

Component	OSHA CLV	ACGIH TWA
Diphenylmethane-4,4'-diisocyanate (MDI)	0.02ppm; 0.2mg/m ³	0.005ppm

Advice on system design - Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment:

Respiratory protection - For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH certified full face-piece pressure demand self-contained breathing apparatus (SCBA) or a full face-piece pressure demand supplied-air respirator (SAR) with escape provisions. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

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Hand protection - Chemical resistant protective gloves, Suitable materials, chloroprene rubber (Neoprene), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, fluoroelastomer (Viton)

Eye protection - Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection - Suitable materials, saran-coated material

General safety and hygiene measures - Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Odor:	Faint odor, aromatic
Color:	Yellow
PH Value:	Not Applicable
Boiling Point:	200°C (5mmHg)
Vapor Pressure (25°C):	0.00001mmHg
Density:	10.20 lb/US gallon
Viscosity (25°C):	30 cps
Solubility in water:	Miscible, reacts with water
Evaporation Rate (Butyl Acetae = 1):	None
Volatile Organic Compounds:	None

10. STABILITY AND REAVTIVITY

Chemical stability: Stable under normal conditions.

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with

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acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength

Conditions to avoid: Moisture. Excessive Heat.

Materials to avoid: Water, alcohols, amines, strong bases, substances/products that react with isocyanates.

Hazardous decomposition products: Carbon dioxide. Carbon monoxide. Hydrogen cyanide. Nitrogen oxides. Aromatic isocyanates. Gases/vapors

Hazardous polymerization: Under normal conditions hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Diphenylmethane-4,4'-diisocyanate (MDI) CAS 101-68-8:

Acute Oral Toxicity LD50 - > 2,000 mg/kg (rat)

Acute Dermal Toxicity LD50 - > 10,000 mg/kg (rabbit)

Acute Inhalation Toxicity LC50 - 490 mg/m³, vapor, 4h (rat)

Chronic Effects: A study was conducted where groups of rats were exposed for 6 hrs/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol at concentrations of 0, 0.2, 1 or 6 mg/m³. No adverse effects were observed at 0.2 mg/m³. At the 1 mg/m³ concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6.0 mg/m³) was there an increased incidence of a benign tumor of the lung (adenoma). One malignant pulmonary tumor (Aden carcinoma) was seen in the 6.0 mg/m³ group. MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP. However, a carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure.

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Mutagenicity: There is no substantial evidence of mutagenic potential. Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: 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 well in excess of the defined occupational limits.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution: It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

Toxicity: Diphenylmethane-4,4'-diisocyanate (MDI) CAS 101-68-8

LC50 (Zebra Fish) - > 1000 mg/l, 96 hrs

EC50 (Daphnia magna) - > 1000 mg/l, 24 hrs

EC50 (E. Coli) - > 100 mg/l

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with federal, state and local regulations. The generation of waste should be avoided or minimized wherever possible. Empty containers should be taken to an approved waste handling site for recycling or disposal. Incineration or landfill should only be considered when recycling is not feasible. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORTATION INFORMATION

Regulatory information	UA number	Classes	Packing Group	Proper Shipping Name
DOT				Not Regulated
IATA				Not Regulated
IMDG				Not Regulated

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TDG			Not Regulated
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15. REGULATORY INFORMATION

Country	Regulatory List	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on Inventory
Canada	DSL/CEPA	Included on Inventory
China	SEPA	Included on Inventory
Japan	ENCS	Included on Inventory

U.S. Federal Regulations:

OSHA – This product is considered to be a hazardous chemical under 29 CFR 1910.1200.

CERCLA RQ – 5,000 lb

CERCLA SARA Hazard Category:

Section 311 AND 312 - This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

CHRONIC HEALTH HAZARD

Section 313 - This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CAS Number	Chemical Name
101-68-8	Diphenylmethane-4,4'-diisocyanate (MDI)

U.S. State Regulations:

California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) - This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

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Right-to-Know -

CAS Number	Chemical Name	State RTK
101-68-8	Diphenylmethane-4,4'-diisocyanate (MDI)	MA, NJ, PA

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

16. OTHER INFORMATION

Hazardous Material Information System (HMIS):

<i>Scale 0-4</i>		<i>NFPA</i>	<i>HMIS</i>
4=Severe Hazard	Health	2	2*
3=Serious Hazard	Flammability	1	1
2=Moderate Hazard	Reactivity	1	1
1=Slight Hazard			
0=Minimal Hazard			

*= Chronic Health Hazard

DISCLAIMER: The data in this safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. The information is believed to be correct as of the date issued. Since the use of this information and the conditions of use of the product are not within the control of Indue Sales & Services, Inc., it is the user's obligation to determine for safe use and disposal of the product and to follow the appropriate safe procedures.

End of Data Sheet

Safety Data Sheet

Date Issued: 3/31/2016

Version: 2.0

1. CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Product Names/Trade Names: Indu-Crete Part C

Chemical Family: Mixed Concrete (Crystalline Silica + White Poland Cement)

Manufacturer's Name: Indue Sales & Services, Inc.

2800 Enloe Street

Hudson, WI 54016

General Contact #: 1-800-577-6213 (8am – 5pm Central Time)

Company 24 Hour Emergency Response Information: INFOTRAC 1-800-535-5053

In the event of emergency involving a spill, leak, fire, exposure, or accident call **INFOTRAC** emergency number. All general questions should be directed to customer service.

2. HAZARDS IDENTIFICATION

Emergency Overview: Portland cement: When in contact with moisture in eyes or on skin, or when mixed with water, portland cement becomes highly caustic (pH > 12) and will damage or burn (as severely as third-degree) the eyes or skin. Inhalation may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system or may cause or may aggravate certain lung diseases or conditions. Use exposure controls or personal protection methods described in Section 8.

Crystalline silica (quartz) is not known to be an environmental hazard. Crystalline silica (quartz) is incompatible with hydrofluoric acid, fluorine, chlorine trifluoride or oxygen difluoride.

OSHA Regulatory Status: This material is considered hazardous under the OSHA Hazard Communications Standard (29 CFR 1910.1200).

Classification of the substance or mixture:

CARCINOGENICITY – Category 1A

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) – Category 2

SKIN CORROSION/IRRITATION – Category 1C

SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1 SKIN SENSITIZATION –

Category 1

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May cause cancer by inhalation.

Causes damage to lungs through prolonged or repeated exposure by inhalation.

Signal Word: DANGER

Pictogram:



Hazard Statement(s):

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction H318 - Causes serious eye damage

H335 - May cause respiratory irritation H350 - May cause cancer (Inhalation)

H350 - May cause cancer.

H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust.

P264 - Wash hands, forearms, and exposed areas 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, protective clothing, face protection, eye protection.

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353+P352 - IF ON SKIN (or hair): Remove/Take off immediately all hazard contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water.

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

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

P310 - Immediately call a POISON CENTER or doctor/physician.

P321 - Specific treatment (see Section 4).

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

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

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P405 - Store locked up.

P501 - Dispose of contents/container according to local, regional, state, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: Inhalation can cause serious, potentially irreversible lung/respiratory tract tissue damage due to chemical (caustic) burns, including third degree burns. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure. Unknown Acute Toxicity (GHS-US) Not available

General Information: This product does contains carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Read the entire SDS for a more thorough evaluation of the hazards.

3. COMPOSITION/INFORMNATION ON INGREDIENTS

Ingredients	% By Weight	CAS Number
Crystalline Silica (quartz)	>0.1%	14808-60-7
Portland Cement	<50%	65997-15-1
Aggregates (various sizes)	30-50%	n/a
Calcium Hydroxides	<5%	1305-62-0

4. FIRST-AID MEASURES

Inhalation: First aid is not generally required. If irritation develops from breathing dust, move the person from the overexposure and seek medical attention if needed.

Skin contact: First aid is not required.

Eye contact: Wash immediately with plenty of water. Do not rub eyes. If irritation persists, seek medical attention.

Ingestion: First aid is not required.

Most important symptoms/effects, acute and delayed: Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation.

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Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath. Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer. Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is not required.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use extinguishing media appropriate for surrounding fire.

Specific hazards arising from the chemical: Product is not flammable, combustible or explosive.

Special protective equipment and precautions for fire-fighters: None required.

These products are not flammable, combustible or explosive.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.

Environmental precautions: No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations.

Methods and materials for containment and cleaning up: Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping. Dispose of in closed containers.

7. HANDLING AND STORAGE

Handling: Do not breathe dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below permissible exposure limit ("PEL"). Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. If crystalline silica dust cannot be kept below permissible limits, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. See Section 8 for further information on respirators. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty.

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Storage: Avoid breakage of bagged material or spills of bulk material. Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep.

The OSHA Hazard Communication Standard, 29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations needs to be strictly followed. **WARN EMPLOYEES (AND YOUR CUSTOMERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND THE REQUIRED OSHA PRECAUTIONS. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

For additional precautions, see American Society for Testing and Materials (ASTM) standard practice E 1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."

Do not use any Indue Sales and Services Aggregates material or quartz for sandblasting.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines:

Component	OSHA TWA	ACGIH TWA	NIOSH TWA
Crystalline Silica (quartz)	10 mg/m ³ . Form: Respirable dust	0.025 mg/m ³ . Form: Respirable dust	0.05mg/m ³ Form: Respirable dust
Portland Cement	5 mg/m ³ . Form: Respirable dust	3 mg/m ³ . Form: Respirable dust	Not Applicable

Appropriate engineering controls: The use of ventilation or other engineering controls may be necessary to maintain airborne levels below any applicable limits. Under normal operations general ventilation should suffice.

Environmental exposure controls: Use general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.

Exposure guidelines: OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including "Particulates Not Otherwise Classified," "Particulates Not Otherwise Regulated," "Particulates Not Otherwise Specified," and "Inert or Nuisance Due" are often used interchangeably; however, the user should review each agency's terminology for differences in meanings.

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Hygiene measures: Use good personal hygiene practices. Do not consume or store food in the work area. Wash hands thoroughly before eating, drinking, or smoking.

Eye/face protection: Safety glasses with side shields should be worn as minimum protection from dust. Dust goggles or full face protection should be worn when very dusty conditions are present or are anticipated.

Hand protection: Use alkali resistant gloves to provide hand protection from concrete.

Body protection: Clothing with long sleeves will provide protection. Waterproof boots high enough to prevent cement from entering should be worn when workers will be standing in wet concrete.

Contaminated work clothing should be washed after use.

Other skin protection: Clothing with long sleeves and long pants should be used to prevent contact with wet concrete.

Respiratory protection: The need for respiratory protection should be evaluated by a qualified professional. The use of respirators for controlling exposures in excess of the PEL must comply with OSHA and MSHA requirements for medical surveillance, respiratory fit testing, repair and cleaning, and user training. In dusty areas, air monitoring for dust and quartz should be conducted regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including but not limited to, wet suppression, ventilation, process enclosure, and enclosed employee work stations.

Special Precaution: If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as tridymite; if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite or cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Flowable granular mud-like
Color:	Whitish
Odor:	None
pH:	Alkaline wet
Melting Point:	3110°F/1710°C
Boiling Point:	4046°F /2230°C
Vapor Pressure (mmHg):	None
Vapor Density (Air = 1):	None

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Specific Gravity (Water = 1):	2.65
Solubility in water:	Insoluble
Evaporation Rate (Butyl Acetate = 1):	None
Volatile Organic Compounds	None

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions. Hazardous reactions will not occur.

Conditions to avoid: Very excessive heat. Water

Materials to avoid: Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

Hazardous decomposition products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas – silicon tetrafluoride.

Hazardous polymerization: Under normal conditions hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: Not reported to be acutely toxic.

Irritation/Corrosion:

Skin: May cause skin burns or skin ulcers.

Eyes: May cause eye irritation or serious eye damage.

Respiratory: Studies indicate an increased risk of lung cancer from chronic exposure to respirable crystalline silica. This effect was more pronounced in those with silicosis. Studies have also linked crystalline silica exposure with autoimmune diseases and kidney disorders.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: See chart below.

Product Name	OSHA	IARC	ACGIH	NTP
Portland Cement CAS 65997-15-1	-	-	A4	-

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Crystalline Silica (Quartz) CAS 14808-60-7	-	1	A2	Known to be a human carcinogen
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Reproductive toxicity: Not expected to be a reproductive hazard.

Teratogenicity: Not expected to be a teratogenic hazard.

Specific target organ toxicity (single exposure)

Product Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7	-	Inhalation	Not reported to have effects

Specific target organ toxicity (repeated exposure)

Product Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7	-	Inhalation	May cause damage to organs (lung) through prolonged or repeated exposure.

Potential chronic health effects:

General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Numerical measures of toxicity:

Crystalline Silica (quartz): LD50 oral rat >22,500 mg/kg

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12. ECOLOGICAL INFORMATION

Ecotoxicity: Crystalline silica (quartz) is not known to be ecotoxic.

Persistence and degradability: Silica is not degradable.

Bioaccumulative potential: Silica is not bioaccumulative.

Mobility in soil: Silica is not mobile in soil.

Other adverse effects: No data available

13 - DISPOSAL CONSIDERATIONS

General: The packaging and material may be landfilled; however, material should be covered to minimize generation of airborne dust.

The above applies to materials as sold by Indue Sales and Services. The material may be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal of the used material in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

UN number: None

UN proper shipping name: Not regulated

Transport hazard classes: None

Packing group, if applicable: None

Environmental hazards: None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):

Not determined **Special precautions:** None known.

15. REGULATORY INFORMATION

Country	Regulatory List	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on Inventory
Canada	DSL	Included on Inventory
China	SEPA	Included on Inventory
Japan	ENCS	Included on Inventory

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OSHA: This product is considered to be a hazardous chemical under 29 CFR 1910.1200.

SARA Section 311 AND 312 - This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: Crystalline Silica (Quartz) CAS 14808-60-7 Delayed (chronic) health hazard

SARA Section 313 - This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) - This product does contain chemicals known to State of California to cause cancer.

Product Name	CAS
Crystalline Silica (Quartz)	14808-60-7

Massachusetts RTK: Listed

New Jersey RTK: Listed

Pennsylvania RTK: Listed

Others:

Canadian WHMIS – D2A “Materials Causing Other Toxic Effects”

EINECS No. - 238-878-4 Crystalline Silica (Quartz)/Silicon Dioxide

EEC Label (Risk/Safety Phrases) - R 48/20, R 40/20, S22, S38

This product has been classified in accordance with the hazard criteria of the Controlled Products

Regulations and the SDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

Hazardous Material Information System (HMIS):

<i>Scale 0-4</i>	<i>NFPA</i>	<i>HMIS</i>
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Safety Data Sheet

4=Severe Hazard	Health	0	*,**
3=Serious Hazard	Flammability	0	0
2=Moderate Hazard	Reactivity	0	0
1=Slight Hazard			
0=Minimal Hazard			

** For further information on health effects, see Sections 3 and 11 of this SDS.

*= Chronic Health Hazard

DISCLAIMER: The data in this safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. The information is believed to be correct as of the date issued. Since the use of this information and the conditions of use of the product are not within the control of Indue Sales & Services, Inc., it is the user's obligation to determine for safe use and disposal of the product and to follow the appropriate safe procedures.

End of Data Sheet