SAFETY DATA SHEET

NATURE SEAL CURE & SEAL (NCS12 and NCS15)

SECTION 01: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier:	Nature Seal Cure & Seal (NCS12 and NCS15)
Product Use:	Concrete and Masonry Protection
Manufacturer's Name:	Fabrikem Manufacturing Ltd. 20361 Duncan Way, Langley, BC V3A 7N3
Supplier's Name:	Fabrikem Manufacturing Ltd. 20361 Duncan Way, Langley, BC V3A 7N3
Preparation Date of SDS:	12 January 2017
Revision Date of SDS:	21 February 2020
SDS Prepared By:	WHMIS Committee
Phone Number of Preparer:	604-532-3883
CANUTEC Emergency Number:	613-996-6666

SECTION 02: HAZARDOUS IDENTIFICATION

GHS Classification:	Flammable liquids — Category 2 Acute toxicity: Oral — Category 4 Acute toxicity: Inhalation — Category 4 Skin corrosion/irritation — Category 2 Serious eye damage/eye irritation — Category 2B Carcinogenicity — Category 1B Specific target organ systemic toxicity – single exposure — Category 3 Specific target organ systemic toxicity – repeated exposure — Category 2
GHS Labelling:	
Signal Word::	Danger
Hazard Statements:	H225 Highly flammable liquid and vapor. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H350 May cause cancer. H373 May cause damage to organs through prolonged or repeated exposure. H402 Harmful to aquatic life.
Precautionary Statements:	**Prevention:** P102 Keep out of reach of children. P103 Read label before use. P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P285 – In case of inadequate ventilation wear respiratory protection. **Response:** P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

	P301 +P330 + P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 – IF INHALED: Remove victim 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. P308 + P313 – IF exposed or concerned: Get medical advice/attention. P332 + P313 – If skin irritation occurs: Get medical advice/attention. P337 + P313 – If eye irritation persists: Get medical advice/attention. P370 + P378 – In case of fire: Use dry sand, dry chemical, or alcohol resistant foam for extinction. P362 Take off contaminated clothing and wash before reuse. **Storage:** P403 +P233 + P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool. P405 Store locked up. **Disposal:** P501 – Dispose of contents/container in accordance with local regulations.
Other hazards	Repeated exposure may cause skin dryness or cracking.

SECTION 03: HAZARDOUS INGREDIENTS

Ingredients:	CAS#	%	Common Name/Synonyms	Other Identifiers
Acetone	67-64-1	30-60	Acetone	
Acetic Acid, tert-butyl ether	540-88-5	10-30	Tertiary Butyl Acetate	TBAc
Xylene, mixture of isomers	1330-20-7	5-10	Xylene	Xylol
1,2,Propanediolcyclic Carbonate	108-32-7	3-7	Propylene Carbonate	
Acrylic Resin	mixture	10-30		

SECTION 04: FIRST AID MEASURES

General Advice:	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. Immediate medical attention is required.
Inhalation:	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye Contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin Contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Ingestion:	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED -CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
Self-protection of the first aider:	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.
Most important symptoms and effects, both acute and delayed:	Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision. May be slightly toxic. Ingestion of large amounts of xylene is likely to cause CNS effects such as dizziness, nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury. The main effect of inhaling xylene vapor is depression of the central nervous system (CNS), with symptoms such as headache, dizziness, nausea and vomiting. Irritation of the nose and throat may also occur. High concentration may cause incoordination, loss of consciousness, respiratory failure and death. Reversible liver and kidney damage has been reported in cases of severe xylene exposure. Neurobehavioral effects such as impaired short term memory and reaction time and

	alterations in body balance have also been found in short term studies. Aspiration hazard! Small amounts aspirated into the lungs during ingestion or vomiting may cause lung injury, possibly leading to death. Symptoms of aspiration into the lungs include coughing, gasping, choking, shortness of breath, bluish discolored skin, rapid breathing and heart rate. Chemical pneumonitis from aspiration may result in fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may develop immediately or as late as 24 hours after the exposure, depending on how much chemical entered the lungs. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Causes moderate skin irritation. May be absorbed through the skin. Skin irritation signs and symptoms may include a burning sensation, redness, swelling and blisters. Causes moderate eye irritation.
Immediate medical attention and special treatment :	The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. Treatment based on sound judgment of physician and individual reactions of patient.

SECTION 05: FIRE FIGHTING MEASURES

Flammable:	Highly Flammable Liquid
Suitable Means of Extinction:	Use dry chemical, CO_2, alcohol foam, or water spray.
Unsuitable Means of Extinction:	Do not use a solid stream of water. This may cause spattering and spread the fire.
Specific Hazards Arising from the Product:	Do not allow runoff to enter waterways or sewer. Isolate and restrict area access. Stop leak only if safe to do so. Move containers from fire area if you can do it without risk. Fight fire from a safe distance and from a protected location. Use flooding quantities of water for fire and water spray or fog for vapours. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure build-up which could result in container rupture. This material may produce a floating fire hazard in extreme fire conditions. This product can produce flammable vapours which may travel to a source of ignition and flash back.
Hazardous Combustion Products:	Closed containers may explode when exposed to extreme temperatures. Thermal decomposition or combustion may generate irritating and or toxic gases like carbon monoxide (CO) and carbon dioxide (CO_2).
Special Protective Equipment and Precautions Fire-Fighters:	Evacuate hazard area of unprotected personnel. Wear proper protective clothing, including a NIOSH-approved, positive pressure, self-contained, breathing apparatus. Cool fire-exposed containers with water. In case of large fires, also cool surrounding equipment and structures with water. If a leak or spill has not ignited, use water spray to disperse the vapours.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Environmental Precautions:	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Containment and Cleaning Up.	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling:	Flammable. For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. DO NOT handle or store near an open flame, heat, or other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. DO NOT pressurize, cut, heat, or weld containers. Empty containers may contain

	hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. Avoid breathing vapours and prolonged or repeated contact with skin. Launder contaminated clothing before re-use.
Conditions for Safe Storage:	Store in a cool, dry, well ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapour accumulation. Store at ambient temperature. Bulk storage tanks should be diked. For containers or container linings use mild steel or stainless steel. Avoid storage with incompatible materials. The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabeled containers. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

SECTION 08: EXPOSURE CONTROL/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	TWA	STEL
Acetone	250 ppm	500 ppm	500 ppm	750 ppm
Tertiary Butyl Acetate	50 ppm	150 ppm	200 ppm	NA
Xylene	100 ppm	150 ppm	100 ppm	150 ppm
Propylene Carbonate	NA	NA	NA	NA

Appropriate Engineering Controls:	Electrical and mechanical equipment should be explosion proof. Firewater monitors and deluge systems are recommended. Local exhaust ventilation as necessary to maintain exposures to within applicable limits.	
Individual Protection Measures:	**Eye/Face Protection:**	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.
	Hand Protection:	Appropriate chemical resistant gloves should be worn. Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Polyvinyl alcohol gloves, Viton gloves, or Ethyl Vinyl Alcohol Laminate (EVAL). Break through time >8 hours.
	Skin and Body Protection:	Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance. Where risk of splashing or in spillage clean up, use chemical resistant one piece overall with integral hood. Chemical/oil resistant clothing.
	Respiratory Protection:	If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Half-face filter respirator. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are

		poor, or if air purifying filter capacity/rating may be exceeded.
	General Hygiene Considerations:	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid
Odour:	Petroleum odour
Odour Threshold:	N/E
pH:	N/A
Melting and Freezing Point:	N/E
Initial Boiling Point and Boiling Range:	N/E
Flash Point:	-17°C (TCC)
Evaporation Rate (n-butyl acetate = 1):	> 1
Flammability (solid, gas)	Highly flammable liquid
Upper and Lower Flammability or Explosive Limit:	12.8% (UFL) 0.9% (LFL)
Vapour Pressure:	17 mm Hg @ 38°C
Vapour Density (air = 1):	>1
Relative Density (water = 1):	1.07-1.10
Solubility in Water:	Insoluble
Solubility in Other Liquids	Aromatic hydrocarbons, ketones
Partition Coefficient n-Octanol/Water (Log Kow)	N/E
Auto-ignition Temperature:	465°C
Decomposition Temperature:	N/E
Viscosity:	

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	N/E
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	Solvents will attack some forms of plastic, rubber, and coatings.
Conditions to Avoid:	Conditions to avoid: Heat, sparks and open flames.
Incompatible Materials:	Strong oxidizers. Acids and alkalies. Nitrates. Plastics. Reducing agents. Aldehydes. Ammonia. Peroxides. Chlorine compounds. Acetone may form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol.
Hazardous Decomposition Products:	Decomposition products can include and are not limited to: carbon monoxide, carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	
Inhalation:	The main effect of inhaling vapour is depression of the central nervous system (CNS), with symptoms such as headache, dizziness, nausea and vomiting. Irritation of the nose and throat may also occur. High concentration may cause incoordination, loss of consciousness, respiratory failure and death. Reversible liver and kidney damage has been reported in cases of severe xylene exposure. Neurobehavioral effects such as impaired short term memory and reaction time and alterations in body balance have also been found in short term studies. Aspiration hazard! Small amounts aspirated into the lungs during ingestion or vomiting may cause lung injury, possibly leading to death. Symptoms of aspiration into the lungs include coughing, gasping, choking, shortness of breath, bluish discolored skin, rapid breathing and heart rate.

	Chemical pneumonitis from aspiration may result in fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may develop immediately or as late as 24 hours after the exposure, depending on how much chemical entered the lungs. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Eye Contact:	Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision. Causes moderate eye irritation.
Skin Contact:	Causes moderate skin irritation. May be absorbed through the skin. Skin irritation signs and symptoms may include a burning sensation, redness, swelling and blisters.
Ingestion:	May be slightly toxic. Ingestion of large amounts of xylene is likely to cause CNS effects such as dizziness, nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

Acute Toxicity:	**LC_{50}**	**LD_{50} (oral)**	**LD_{50} (dermal)**
Acetone	50,100 mg/m^3 (Rat 8 hour)	5,800 mg/kg (Rat)	>15,700 mg/kg (Rabbit)
Tertiary Butyl Acetate	13,300 mg/m^3 (Rat 4 hour)	4,100 mg/kg (Rat)	>2,000 mg/kg (Rabbit)
Xylene	29,100 mg/m^3 (Rat 4 hour)	3,500 mg/kg (Rat)	4,350 mg/kg (Rabbit)
Propylene Carbonate	N/A	29,000 mg/kg (Rat)	>3,000 mg/kg (Rabbit)

Skin Corrosion/Irritation:	Causes moderate skin irritation. May be absorbed through the skin. Prolonged or repeated contact may cause defatting and drying of the skin. Defatting dermatitis and skin irritation signs and symptoms may include a burning sensation, redness, swelling, blisters, and/or a dried/cracked appearance.
Serious Eye Damage/Irritation:	Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision. Vapours are irritating to eyes. May cause conjunctivitis, corneal burns and permanent damage. Causes serious eye irritation.
Specific Target Organ Toxicity (Single Exposure):	May cause respiratory irritation.
Aspiration Hazard:	May be fatal if swallowed and enters airways.
Specific Target Organ Toxicity (Repeated Exposure):	May cause damage to Central Nervous System, Ears, Kidney, Liver.
Respiratory and/or Skin Sensitization:	No information available.

Carcinogenicity:

Chemical Name	**IARC**	**ACGIH**	**OSHA**
Acetone	N/A	N/A	N/A
Tertiary Butyl Acetate	N/A	N/A	N/A
Xylene	Group 3	N/A	N/A
Propylene Carbonate	N/A	N/A	N/A

Legend:	IARC (International Agency for Research on Cancer) Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity:	Although abnormal sperm were observed after an interperitoneal injection in rats, xylene did not produce reproductive effects. An increase in menstrual disorders has been reported in women exposed to organic solvents but it is not possible to attribute this to xylene alone. Xylene has produced fetotoxic effects (delayed ossification and behavioral effects) in animals, in the absence of maternal toxicity. One study found that significant fetal effects at doses that did not cause high maternal toxicity included reduced fetal weight and increased incidence of malformed fetuses. In other studies where rats and mice were exposed by inhalation or ingestion, harmful effects in the offspring (teratogenicity, embryotoxicity and/or fetotoxicity) were either not observed or were observed in the presence of significant harmful effects in the mothers. There have been a few studies investigating the mutagenic

	potential of xylenes. These studies (induction of sister chromatid exchanges and chromosomal aberrations in human lymphocytes [white blood cells]) were negative.
Germ Cell Mutagenicity:	Classification based on data available for ingredients. Contains a known or suspected mutagen.
Interactive Effects:	No information available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Chemical Name	Ecotoxicity Freshwater Algae Data	Ecotoxicity Fish Species Data	Toxicity to Microorganisms	Crustacea
Acetone	Not Available	4.74 - 6.33 mL/L LC50 (Oncorhynchus mykiss) 96 h 6210 - 8120 mg/L LC50 (Pimephales promelas) 96 h static 8300 mg/L LC50 (Lepomis macrochirus) 96 h	Not Available	EC50: 10294 - 17704mg/L (48h, Daphnia magna) EC50: 12600 - 12700mg/L (48h, Daphnia magna)
Tertiary Butyl Acetate	Not Available	296 - 362 mg/L LC50 (Pimephales promelas) 96 h flow-through	Not Available	Not Available
Xylene	11 mg/L EC50 Pseudokirchneriella subcapitata 72 h	13.1 - 16.5 mg/L LC50 (Lepomis macrochirus) 96 h flow-through 13.5 - 17.3 mg/L LC50 (Oncorhynchus mykiss) 96 h 2.661 - 4.093 mg/L LC50 (Oncorhynchus mykiss) 96 h static 23.53 - 29.97 mg/L LC50 (Pimephales promelas) 96 h static 30.26 - 40.75 mg/L LC50 (Poecilia reticulata) 96 h static 7.711 - 9.591 mg/L LC50 (Lepomis macrochirus) 96 h static 13.4 mg/L LC50 (Pimephales promelas) 96 h flow-through 19 mg/L LC50 (Lepomis macrochirus) 96 h 780 mg/L LC50 (Cyprinus carpio) 96 h semi-static 780 mg/L LC50 (Cyprinus carpio) 96 h	Not Available	LC50: =0.6mg/L (48h, Gammarus lacustris) EC50: =3.82mg/L (48h, water flea)
Propylene Carbonate	Not Available	Not Available	Not Available	Not Available

Persistence and Degradability:	No information available.
Bioaccumulation:	No information available.

Component Information:

Chemical Name	Partition Coefficient
Acetone	-0.24
Xylene	2.77-3.15
Tertiary Butyl Acetate	1.38

	Propylene Carbonate	0.48
Other Adverse Effects:	No information available.	

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods:	Dispose of waste in accordance with environmental legislation. Should not be released into the environment. Dispose of in accordance with local regulations. Empty containers should be recycled or disposed of through an approved waste management facility. Empty containers retain product residue (liquid and/or vapour) and can be dangerous.

SECTION 14: TRANSPORT INFORMATION

Shipping Name:	UN 1866, RESIN SOLUTION, FLAMMABLE, Class 3, P.G. III
PIN:	1866
TDG:	UN 1866, RESIN SOLUTION, FLAMMABLE, Class 3, P.G. III
DOT:	UN 1866, RESIN SOLUTION, FLAMMABLE, Class 3, P.G. III
IMO:	N/E
ICAO:	N/E
ERAP:	N/E

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations

U.S. Regulatory Rules

Chemical Name	CERCLA/SARA Section 302	SARA (311, 312) Hazard Class	CERCLA/SARA Section 313
Acetone	Not Listed	Listed	Not Listed
Tertiary Butyl Acetate	Not Listed	Listed	Not Listed
Xylene	Not Listed	Listed	Listed
Propylene Carbonate	Not Listed	Not Listed	Not Listed

TSCA:	Complies
DSL/NDSL:	Complies
IARC Monograph:	Group 3 (xylene)
NFPA Rating:	Health = 3, Fire = 3, Instability = 0

SECTION 16: OTHER INFORMATION

Date of Latest Revision:	21 February 2020

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It is provided solely for the customer's consideration, and verification and Fabrikem Manufacturing Ltd. hereby specifically claims it shall not be held liable for any damage resulting from handling or from contact with the above products.

N/A = Not Applicable
N/E = Not Established