

SPECIFICATION SHEET

Silia

Product Number:

Product Description

Black Spruce Essential Oil (Picea Mariana) encapsulated in silica

Product Specifications

Properties	Specification	Test Methods
Appearance	Powder	Visual
Color	Off white to slightly yellow	Visual
Odor	Characteristic	Organoleptic
Average Particle size	< 40 µm	Malvern Mastersizer
Moisture	20 % to 30 %	Calculated
Assay of Active	Min 50 %	Calculated

Storage Conditions

Prolonged Storage

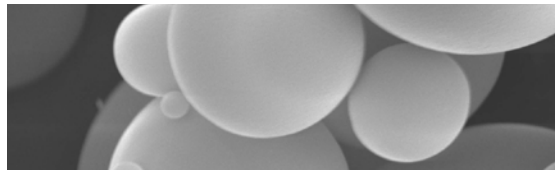
Store in a dry, well-ventilated, dark area at temperature of 5 °C.
Store in a tightly closed container.
Keep away from direct sunlight and source of heat.

Creative Freedom

for the cosmetic designer

SiliCycle's *in silica* Technologies enable novel skin care, hair care and make up products by improving high-value essential oils, synthetic fragrances, vitamins, actives with insufficient bioavailability and difficult-to-formulate ingredients.

Silica brings you **power**



SiliCycle's contribution to the cosmetic designer repertoire :

- **novel** tactile experience (*granulometry*) ;
- novel visual experience (*color-changing schemes*) ;
- novel olfactory **experience** (*variation in duration, intensity and order of desorption the odorant components*) ;
- variety in **liberation modes** (*porosity, crushability*) ;
- **masking** undesired color or odor ;
- extended shelf life ;
- **integrity** of the ingredient (*low intensity process*) ;
- **flexibility** in **formulation** of unstable, oxydable or viscous ingredients (*incorporating panthenol, retinol and other lipophilic actives in aqueous formulations*) ;
- much-sought after, environment-friendly **alternative to polymer** ;
- **safe** material, process and products ;
- significant **cost-efficiency** gains (*use less material to attain the desired activity*) ;
- and more to be discovered.



Silica is **safe**

Silica, widely present in **nature**, is a staple ingredient of pharmaceutical, food/feed and personal care applications. Contrarily to various natural material, it is not susceptible to bacterial proliferation ; contrarily to polymer and other petrol-based materials, it is **environment-friendly** and recognized as a **GRAS substance** by the US Food and Drugs Administration. More so, silica-based products are likely to comply with the TVO list of allowed materials, which qualifies it for food-grade applications, the utmost level of **biocompatibility**.

in silica™ technologies deliver inert neat silica particles in the low micrometric range, devoid of sub-micron silica residues, toxic monomers and hazardous organic solvents.

in silica™ ingredients procure additional **safety to skin care** and make up products by preventing skin irritation :

- the silica coating avoids direct active-on-skin contact ;
- the extended desorption makes for a low-intensity effect of the volatile ;
- **alcohol-free** formulations.

For R&D and
manufacture assistance, contact:

François Arcand, Head, *in silica* Technologies™
at SiliCycle Inc.
+1 514 994 1023
francoisarcand@silicycle.com





PRODUCT INFORMATION

Product Number	Description
FSi-100	Black Spruce Essential Oil (<i>Picea mariana</i>) encapsulated in silica

MATERIAL SOURCE

Black Spruce Essential Oil encapsulated in silica is not produced from any genetically modified material (GMO)

Type of Manufacture: Synthetic

A handwritten signature in black ink, appearing to read "Luc Fortier".

Luc Fortier
VP Quality

In silica technologies



STATEMENT
Animal testing

Date : 2015-11-10

Version 1.0: November 2015

We, the undersigned:

SiliCycle Inc., 2500 Blv du Parc Technologique Quebec (Quebec) Canada G1P4S6

Hereby, certify that the product delivered under the following name:

Commercial name: Black Spruce Essential Oil (*Picea mariana*) encapsulated in silica
Code: FSi-100

- Has not been the subject of animal testing

Validated on November 10, 2015

Simon Bernier
Production Director

Liability clause

The information contained in this statement is based on our knowledge of the related product on the date indicated, but does not amount to a guarantee in respect of the product's properties and does not give rise to any contractual legal tie. This information is given in utmost good faith. It cannot substitute for indispensable preliminary tests that must be conducted to ensure product suitability for each intended use. Nothing herein shall be construed as a recommendation or license to use any information that conflicts with any patent or trademark of our company or others. We make no representations or warranties, express or implied that any use of this information will not infringe any such patent or trademark. The user's attention is also drawn to the possible risks incurred if a product is used for a purpose other than its designed purpose. This statement does not under any circumstance replace knowledge and application by the user of all laws and regulations relevant to his own operations. The user shall be solely liable for the precautions taken relevant to the use made of the products. This information does not exempt the user from ensuring that he may possibly come under other obligations pursuant to laws or regulations other than those indicated relating to the possession and manipulation of the product for which he shall be solely liable.



PRODUCT INFORMATION

Product Number	Description
FSi-100	Black Spruce Essential Oil (<i>Picea mariana</i>) encapsulated in silica

MATERIAL SOURCE

Always Non-Animal Source

Type of Source: Vegetal and/or synthetic

Type of Manufacture: Synthetic

A handwritten signature in blue ink, appearing to be "Simon Bernier".

Simon Bernier
Production Director

Liability clause

The information contained in this statement is based on our knowledge of the related product on the date indicated, but does not amount to a guarantee in respect of the product's properties and does not give rise to any contractual legal tie. This information is given in utmost good faith. It cannot substitute for indispensable preliminary tests that must be conducted to ensure product suitability for each intended use. Nothing herein shall be construed as a recommendation or license to use any information that conflicts with any patent or trademark of our company or others. We make no representations or warranties, express or implied that any use of this information will not infringe any such patent or trademark. The user's attention is also drawn to the possible risks incurred if a product is used for a purpose other than its designed purpose. This statement does not under any circumstance replace knowledge and application by the user of all laws and regulations relevant to his own operations. The user shall be solely liable for the precautions taken relevant to the use made of the products. This information does not exempt the user from ensuring that he may possibly come under other obligations pursuant to laws or regulations other than those indicated relating to the possession and manipulation of the product for which he shall be solely liable.


SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	
Product name	Encapsulated Black spruce essential oil in silica
Product code	FSI-100
EC number	Not available
CAS number	Not available
REACH	A registration number is not available for this substance or its uses are exempted from registration, the annual tonnage does not require a registration or a registration is envisaged for a later registration deadline.
Product description	Black spruce essential oil encapsulated inside silica capsules
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses:	Recommended use as a formulation ingredient or as active product in aromatherapy following the advices of an expert
1.3. Details of the supplier of the safety data sheet	
SiliCycle Inc.	2500, Parc-Technologique Blvd Quebec City, QC Canada, G1P 4S6
Tel: 418-874-0054 Fax: 418-874-0355	Info@SiliCycle.com www.SiliCycle.com
1.4. Emergency telephone number	
National advisory body/poison center	
Telephone number	CANUTEC: +1-613-996-6666 or *666 (cellular)
Hours of operation	24 hours/day, 7 days/week

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture	
Classification according to regulation (EC) No. 1272/2008 [CLP/GHS]:	
Asp. Tox. (AH 1)	H304
Classification according to EU Directives 67/548/EEC or 1999/45/EC	
Xn	Harmful
R65	Harmful: may cause lung damage if swallowed
2.2. Label elements	
Labelling according Regulation (EC) No 1272/2008	
Pictogram	
Signal word	Danger
Hazard statements	H304 May be fatal if swallowed and enters airways
Precautionary statements	
P280	Wear protective gloves / protective clothing/ eye protection/ face protection
P261	Avoid breathing dust
P270	Do not eat, drink or smoke when using this product
P264	Wash hands thoroughly after handling
P305/ P351/P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses.
P301/P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
According to European Directive 67/548/EEC as amended	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves, and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately
S61	Avoid release to the environment. Refer to special instruction/ Safety data sheets
2.3. Other hazards	
Other hazards which do not result in classification: Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.	

SECTION 3: Composition/information on ingredients

Substance/mixture: mixture

Product/ingredient name	Identifiers CAS (EC)	%	Directive 1999/45/EC	Regulation (EC) No. 1272/2008 [CLP]	Type
Black spruce essential oil (<i>Picea mariana</i>) encapsulated in silica	Not available	50-100	Xn, R65	H304	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

Type : [A] Constituent [B] Impurity [C] Stabilising additive



SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

SECTION 4: First aid measures

4.1 Description of first aid measures	
Eye contact	Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if necessary
Inhalation	Move exposed person to fresh air.
Ingestion	Put the person at rest and under observation. Call a poison center or doctor.
4.2 Indication of any immediate medical attention and special treatment needed	
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment

SECTION 5: Firefighting measures

5.1 Extinguishing media	
Suitable extinguishing media	Powder or foam extinguishers
Unsuitable extinguishing media	Do not try to extinguish with water spray.
5.2 Special hazards arising from the substance or mixture	
Hazardous combustion products	Fumes or toxic vapour may be generated during combustion of the substance. If possible wear self-contained breathing apparatus.
5.3 Advice for firefighters	
Special protective equipment for fire-fighters	Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode. Clothing for fire fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	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 spilt material. Avoid breathing dust. Put on appropriate personal protective equipment
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-emergency personnel".
6.2 Environmental precautions	
6.3 Methods and materials for containment and cleaning up	
Small spill	
Large spill	
6.4 Reference to other sections	
See Section 1 for emergency contact information.	
See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of identified uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling	
Protective measures	Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
7.2 Conditions for safe storage, including any incompatibilities	
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cold and well-ventilated area, away from incompatible materials (see section 10) and food and drink. 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 unlabelled containers.	
7.3 Specific end use(s)	
Recommendations	Recommended use as a formulation ingredient or as active product in aromatherapy following the advices of an expert.
Industrial sector specific solutions	Cosmetic and aromatherapy

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of identified uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters	
Exposure limit values	No exposure limit value known. Components with workplace control parameters
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
8.2 Exposure controls	
Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits



SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Individual protection measures	
Hygiene measures	Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Eye/face protection	Safety eyewear should be used when there is a likelihood of exposure. Recommended: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Skin protection	
Hand protection	Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Not required under normal conditions of uses. 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. Ensure an MSHA/NIOSH-approved respirator or equivalent is used
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
Physical state	Solid (powder)
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Solubility(ies)	No data available
9.2 Other safety information	
No specific data available	

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients
10.2 Chemical stability	The product is stable under recommended storage conditions
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur
10.4 Conditions to avoid	No specific data
10.5 Incompatible materials	No specific data
10.6. Hazardous decomposition products	No specific data

SECTION 11: Toxicological information

11.1. Information on toxicological effects	
Information on the likely routes of exposure	Routes of entry anticipated: Oral
Potential acute health effects	
Ingestion	Harmful if swallowed. Not documented
Eye contact	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Symptoms related to the physical, chemical and toxicological characteristics	
Ingestion	Not documented
Eye contact	Adverse symptoms may include the following: irritation redness
Delayed and immediate effects and also chronic effects from short and long term exposure Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
General: Carcinogenicity	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Mutagenicity: Teratogenicity	No known significant effects or critical hazards
Developmental effects	No known significant effects or critical hazards
Fertility effects	No known significant effects or critical hazards
Other information	No known significant effects or critical hazards

SECTION 12: Ecological information

12.1. Toxicity	Not available
12.2 Persistence and degradability	Not available
12.3 Bio accumulative potential	Not available
12.4 Mobility in soil	
Soil/water partition coefficient (KOC)	Not available



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Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Mobility	Not available
12.5 Results of PBT and vPvB assessment	
PBT	Not available. P: Not available. B: Not available. T: Not available.
vPvB	Not available. vP: Not available. vB: Not available.
12.6 Other adverse effects	Not available.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of identified uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods	
Product	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste products residue should not be disposed of via the foul sewer, but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU directive 91/689/EEC
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste when packaging should be recycled. Incineration or landfill should only be considered. Recycling is not feasible.
Special precautions	This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waters, drains and sewers

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	Not dangerous good	Not dangerous good	Not dangerous good	Not dangerous good
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	Not available.	Not available.	Not available.	Not available.
Additional information	-	-	-	-

PG* : Packing group; Exemption to the above classification may apply.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorisation Substances of very high concern	No data available
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable
Other EU regulations	
Europe inventory	Not determined.
Black List Chemicals	Not listed
Priority List Chemicals	Not listed
Integrated pollution prevention and control list (IPPC) – Air	Not listed
Integrated pollution prevention and control list (IPPC) - Water	Not listed
15.2 Chemical Safety Assessment	Not available

SECTION 16: Other information

Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

CLP= Classification, Labelling and Packaging regulation (Regulation <EC> No. 1272/2008

DNEL= Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = Reach Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Not classified
Full text of abbreviated H statements H304 Xn R65	May be fatal if swallowed and enters airways. Harmful. Harmful, may cause lung damage if swallowed.
Full text of classifications CLP/GHS	Not available
History Date of issue (dd/mm/yyyy) Version	28/10/2015 1.0



SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

SECTION 1: Identification of the substance/mixture and of the company

GHS Product identifier	Encapsulated black spruce essential oil in silica
Other means of identification	
Product code	FSI-100
Product type	Powder
CAS number	Not available
Identified uses	Recommended uses as a formulation ingredient or as active product in aromatherapy following the advices of an expert
Supplier's details	Silicycle Inc. 2500, Parc-Technologique Blvd, Quebec City, QC, Canada, G1P 4S6 Tel :418-874-0054 Fax :418-874-0355 info@silicycle.com www.silicycle.com
Emergency telephone number	
Telephone number	CANUTEC: +1-613-996-6666 or *666 (cellular)
Hours of operation	24 hours/day, 7 days/week

SECTION 2: Hazards identification

Classification according to regulation HazCom 2012 / WHMIS 2015:	
OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Classification of the substance or mixture	Acute Toxicity, (oral) - Category 4 Skin corrosion/Irritation – Category 2 Serious eye damage / eye irritation – Category 2A Specific target organ toxicity (single exposure) Respiratory tract irritation) – Category 3
GHS label elements	
Hazard pictograms	
Signal word	Warning
Hazard statements	
H304	May be fatal if swallowed and enters airways
Precautionary statements	
General	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label irritation.
Prevention	P280 - Wear protective gloves. Wear eye or face protection. P261 - Avoid breathing dust. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Response	P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. 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 attention.
Storage	P405 - Store locked up.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified (HNOC)	
Physical hazards not otherwise classified (PHNOC)	Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
Health hazards not otherwise classified (HHNOC)	Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

Product/ingredient name	CAS Number	%
Encapsulated Black spruce essential oil (<i>picea mariana</i>) in silica	Not available	50-95

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

Description of necessary first aid measures	
Eye contact	Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if necessary
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 20 minutes.
Ingestion	Wash out mouth with water. Don't induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.



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Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Most important symptoms/effects, acute and delayed	
Eye contact	Cause serious eye irritation
Inhalation	May cause respiratory irritation
Skin contact	Cause skin irritation
Ingestion	Harmful if swallowed. Irritating to mouth, throat and stomach
Over-exposure signs/symptoms	
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness.
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing.
Skin contact	Adverse symptoms may include the following: irritation redness.
Ingestion	No known significant effects or critical hazards
Indication of any immediate medical attention and special treatment needed	
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media	
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire
Unsuitable extinguishing media	None known
Specific hazard arising from the chemical	No specific fire or explosion hazard
Hazardous thermal decomposition products	No specific data
Special protective actions for firefighters	No special measures are required
Special protective equipment for fire-fighters	Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	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 spilt material. Avoid breathing dust. Put on appropriate personal protective equipment
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-emergency personnel".
Environmental precautions	Avoid dispersal of split material and runoff and contact with soil, waterways, drain and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up	
Small spill	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, watercourses, basements and confined areas. Vacuum or sweep up materials and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling	
Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cold and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. 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 containers. Use appropriate containment to avoid environmental contamination

SECTION 8: Exposure controls/personal protection

Control parameters	
United States Occupational exposure limits	None
Canada Occupational exposure limits	None
Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits
Environmental exposure controls	In some case, dust collection filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.



SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Individual protection measures	
Hygiene measures	Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Eye/face protection	Safety eyewear should be used when there is a likelihood of exposure. Recommended: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Skin protection	
Hand protection	Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Not required under normal conditions of uses. 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. Ensure an MSHA/NIOSH-approved respirator or equivalent is used

SECTION 9: Physical and chemical properties

Physical state	Solid (powder)
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Solubility(ies)	No data available

SECTION 10: Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients
Chemical stability	The product is stable under recommended storage conditions
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur
Conditions to avoid	No specific data
Incompatible materials	Hydrogen fluoride (HF), strong base
Hazardous decomposition products	No specific data

SECTION 11: Toxicological information

Information on toxicological effects	
Information on the likely routes of exposure	Routes of entry anticipated: Oral, Dermal and Inhalation.
Potential acute health effects	
Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Ingestion	Harmful if swallowed, may cause lung damage.
Skin contact	No specific data
Eye contact	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Symptoms related to the physical, chemical and toxicological characteristics	
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No known significant effects or critical hazards
Skin contact	Adverse symptoms may include the following: irritation, redness
Eye contact	Adverse symptoms may include the following: irritation redness
Delayed and immediate effects and also chronic effects from short and long term exposure Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Potential chronic health effects	
General	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity	No known significant effects or critical hazards
Mutagenicity	No known significant effects or critical hazards
Teratogenicity	No known significant effects or critical hazards
Developmental effects	No known significant effects or critical hazards
Fertility effects	No known significant effects or critical hazards
Numerical measures of toxicity	There is no data available

SECTION 12: Ecological information

Toxicity	Not available
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SAFETY DATA SHEET

Encapsulated Black spruce essential oil (*Picea mariana*) in silica

Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	
Soil/water partition coefficient (Koc)	Not available
Other adverse effects	No known significant effects or critical hazards
12.6 Other adverse effects	No known significant effects or critical hazards

SECTION 13: Disposal considerations

Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste products residue should not be disposed of via the foul sewer, but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU directive 91/689/EEC
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste when packaging should be recycled. Incineration should only be considered. Recycling is not feasible.
Special precautions	This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waters, drains and sewers

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated
UN proper shipping name	Not dangerous good	Not dangerous good	Not dangerous good	Not dangerous good
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Special precautions for user	Not available.	Not available.	Not available.	Not available.
Additional information	-	-	-	-

PG* : Packing group; Exemption to the above classification may apply.

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. Transport in bulk according to Anne II of MARPOL 73/78 and the IBC code.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
U.S. Federal regulations	
United States inventory (TSCA 8b)	Not determined
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	Not listed
Clean Air Act Section 602 Class I Substances	Not listed
Clean Air Act Section 602 Class II Substances	Not listed
DEA List I Chemicals (Precursor Chemicals)	Not listed
SARA 302/304	
Composition/information on ingredients	No products were found
SARA 304 RQ	Not applicable
SARA 311/312	
Classification	Immediate (acute) health hazard
SARA 313	
	No products were found
State Regulations	
Massachusetts	This material is not listed
Ney York	This material is not listed
New Jersey	This material is not listed
Pennsylvania	This material is not listed
California Prop. 65	No products were found
Canada (Canadian lists)	
Canadian NPRI	This material is not listed
CEPA Toxic substances	This material is not listed
Canada Inventory	Not determined
International lists (National inventory)	
China	Not determined
Australia	Not determined
Europe	Not determined
Japan	Not determined
Malaysia	Not determined
New Zealand	Not determined
Philippines	Not determined
Republic of Korea	Not determined
Taiwan	Not determined



SAFETY DATA SHEET

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SECTION 16: Other information

Date of issue mm/dd/yyyy : 28/10/2015

Version : 1.0

Notice to reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

In silica technologies



**STATEMENT
Nanoparticules**

Date : 2015-11-10

Version 1.0: November 2015

We, the undersigned:

SiliCycle Inc., 2500 Blv du Parc Technologique Quebec (Quebec) Canada G1P4S6

Hereby, certify that the product delivered under the following name:

Commercial name: Black Spruce Essential Oil (*Picea mariana*) encapsulated in silica
Code: FSi-100

- Does not contain nanomaterial(s) according to the following definitions:

European Commission recommendation from October 18th 2011: “Nanomaterial” means a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm – 100 nm.”

French nano decree n°2012-232 where a nanomaterial is defined as in article 3 of Regulation (EC) n°1907/2006 (REACH) as a substance intentionally manufactured at nanoscale, containing particles, in a unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the range 1nm and 100 nm.

Validated on November 10, 2015

A handwritten signature in blue ink, appearing to read "Simon Bernier".

Simon Bernier
Production Director

Liability clause

The information contained in this statement is based on our knowledge of the related product on the date indicated, but does not amount to a guarantee in respect of the product's properties and does not give tie to any contractual legal tie. This information is given in utmost good faith. It cannot substitute for indispensable preliminary tests that must be conducted to ensure product suitability for each intended use. Nothing herein shall be construed as a recommendation or license to use any information that conflicts with any patent or trademark of our company or others. We make no representations or warranties, express or implied that any use of this information will not infringe any such patent or trademark. The user's attention is also drawn to the possible risks incurred if a product is used for a purpose other than its designed purpose. This statement does not under any circumstance replace knowledge and application by the user of all laws and regulations relevant to his own operations. The user shall be solely liable for the precautions taken relevant to the use made of the products. This information does not exempt the user from ensuring that he may possibly come under other obligations pursuant to laws or regulations other than those indicated relating to the possession and manipulation of the product for which he shall be solely liable.