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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **SWAB**

Product Code(s) : SW2, SW4, SW6, SW2C, SW4C, SW6C

Recommended use of the chemical and restrictions on use

: Cleans grease, oil and dirt from concrete and asphalt.
No restrictions on use known.

Chemical family : Mixture of: Silicates; Alkali metal compounds; Surfactant; Mineral oil; Essential oil

Name, address, and telephone number of the supplier:

Radiator Specialty Co., of Canada

1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Supplier's Telephone # : (905) 625-9117 (Mon. - Fri., 8 am - 4 pm)

24 Hr. Emergency Tel # : (613) 996-6666 (CANUTEC)

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Green, free flowing powder. Pine scent.

Most important hazards:
May be corrosive to metals.
Harmful if swallowed. May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. May cause an allergic skin reaction. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.
Harmful to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
Classification:

- Corrosive to metals - Category 1
- Acute toxicity - Category 4 (Oral)
- Skin corrosion/irritation - Category 1C
- Eye damage/irritation - Category 1
- Skin sensitization - Category 1
- Hazards Not Otherwise Classified (HNOC) / Health Hazards Not Otherwise Classified (Respiratory Tract)

Label elements

Hazard pictogram(s)

Signal Word

DANGER!

Hazard statement(s)

May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Corrosive to the respiratory tract.

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Precautionary statement(s)

Keep only in original packaging.
Do not breathe dust or mist.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/clothing and eye/face protection.

Immediately call a POISON CENTER or doctor/physician.
If swallowed: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Absorb spillage to prevent material damage.

Store locked up.
Store in corrosive resistant container with a resistant inner liner.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
Contact with metals may release small amounts of flammable hydrogen gas. Toxic fumes may be released during a fire. May cause irritation and burns to mouth and throat.

Environmental precautions:
Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Sodium metasilicate pentahydrate	Silicic acid (H2SiO3), disodium salt, pentahydrate Sodium silicate hydrate	10213-79-3	**82.0**
Sodium carbonate	soda ash Carbonic acid, sodium salt	497-19-8	**10.4**
Pine needle oil	Pinus pumilio oil	8000-26-8	**0.75**

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to an unconscious person.

Inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Immediately call a POISON CENTER or doctor/physician.

Skin contact : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Flush affected skin with gently flowing lukewarm water for at least 20 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 20 minutes. Protect unharmed eye. Do not rub area of contact. Immediately call a POISON CENTER or doctor/physician.

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Most important symptoms and effects, both acute and delayed

: Causes skin burns. Symptoms may include blistering, ulcerations and scarring.
Causes serious eye damage. Symptoms may include stinging, tearing, redness and swelling. May cause irreversible eye damage.
Corrosive to the respiratory tract. May produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing, choking, pain, or shortness of breath.
Harmful if swallowed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.
May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.

Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable. Contact with metals may release small amounts of flammable hydrogen gas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Hazardous combustion products

: Carbon oxides; Sodium oxides; Silicon oxides; Formaldehyde; Hydrocarbons; Other irritating fumes and smoke.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Normal protective clothing (bunker gear) may not be adequate. A full-body encapsulating chemical protective suit may be necessary.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Avoid release to the environment.

Methods and material for containment and cleaning up

: Ventilate the area. Prevent further leakage or spillage if safe to do so. Eliminate all ignition sources. Pick up and arrange disposal without creating dust. Cautiously dilute residue with water and neutralize with dilute acid (e.g. Acetic acid, Hydrochloric acid). Do not flush into surface water or sanitary sewer system. Absorb material with inert absorbent, and place into labelled containers for disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use with adequate ventilation. Wear protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe dust or mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from metals and incompatibles. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue and can be dangerous. Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.
Store in corrosive resistant container with a resistant inner liner. Do not store in aluminum, fibreglass, copper, brass, zinc or galvanized containers.
In case of high humidity or storage for extended periods of time, use plastic bags to enclose product containers to avoid caking. Material is hygroscopic and may absorb moisture from air.

Incompatible materials : Acids; Reactive metals; Ammonium salts; Strong oxidizing agents; Reducing agents; Metals (e.g. tin, aluminum, zinc and alloys containing these metals).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Sodium metasilicate pentahydrate	N/Av	N/Av	N/Av	N/Av
Sodium carbonate	N/Av	N/Av	N/Av	N/Av
Pine needle oil	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Local ventilation is recommended if the product is misted or used in a confined space, or if the TLV is exceeded.

Respiratory protection : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Wear eye/face protection. Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. A full face shield may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe dust or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Green, free flowing powder.

Odour : Pine scent.

Odour threshold : N/Av

pH : 12 (2% solution)

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Melting/Freezing point : N/Av
Initial boiling point and boiling range
: N/Av
Flash point : N/Ap
Flashpoint (Method) : N/Ap
Evaporation rate (BuAe = 1) : N/Ap
Flammability (solid, gas) : Not considered flammable.
Lower flammable limit (% by vol.)
: N/Ap
Upper flammable limit (% by vol.)
: N/Ap
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapour pressure : N/Ap
Vapour density : N/Ap
Relative density / Specific gravity
: 0.9 - 1.2 @ 20°C (68°F)
Solubility in water : Soluble
Other solubility(ies) : N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: N/Av
Auto-ignition temperature : N/Av
Decomposition temperature : N/Av
Viscosity : N/Ap
Volatiles (% by weight) : N/Av
Volatile organic Compounds (VOC's)
: N/Av
Absolute pressure of container
: N/Ap
Flame projection length : N/Ap
Other physical/chemical comments
: Alkali reserve: 338

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. May be corrosive to Aluminum. Reaction with metals, such as aluminum, tin or zinc, releases flammable and explosive hydrogen gas. May react with ammonium salt solutions resulting in evolution of ammonia gas. Material is hygroscopic and may absorb moisture from air.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
: Hazardous polymerization does not occur.
Conditions to avoid : Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials. Avoid heat and open flame. Protect from moisture.
Incompatible materials : Acids; Reactive metals; Ammonium salts; Strong oxidizing agents; Reducing agents; Metals (e.g. tin, aluminum, zinc and alloys containing these metals).
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES

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Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Corrosive to the respiratory tract. May produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing, choking, pain, or shortness of breath.

Sign and symptoms ingestion

: Harmful if swallowed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.

Sign and symptoms skin : Causes skin burns. Symptoms may include blistering, ulcerations and scarring.

Sign and symptoms eyes : Causes serious eye damage. Symptoms may include stinging, tearing, redness and swelling. May cause irreversible eye damage.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

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

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material : This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Skin sensitization - Category 1. May cause an allergic skin reaction.
Contains: Pine needle oil. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
Not expected to be a respiratory sensitizer.

Specific target organ effects : According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials : None known or reported by the manufacturer.

Toxicological data : Not classified for acute toxicity based on available data. The calculated ATE values for this mixture are:
ATE oral = 1314 mg/kg

See below for individual ingredient acute toxicity data.

Chemical name	LC_{50} (4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Sodium metasilicate pentahydrate	> 2.06 mg/L (mist) (No mortality) (anhydrous)	1152 - 1349 mg/kg (anhydrous)	> 5000 mg/kg (anhydrous)
Sodium carbonate	N/Av	2800 mg/kg	> 2000 mg/kg (No mortality)
Pine needle oil	> 3.79 mg/L (aerosol)	> 5000 mg/kg	> 5000 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Harmful to aquatic life. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium metasilicate pentahydrate	10213-79-3	260 - 310 mg/L (Rainbow trout)	N/Av	None.
Sodium carbonate	497-19-8	300 mg/L (Bluegill sunfish)	N/Av	None.
Pine needle oil	8000-26-8	53 mg/L (Bluegill sunfish)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium metasilicate pentahydrate	10213-79-3	1700 mg/L (Daphnia magna)	N/Av	None.
Sodium carbonate	497-19-8	200 mg/L [Ceriodaphnia (water flea)]	N/Av	None.
Pine needle oil	8000-26-8	24 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium metasilicate pentahydrate	10213-79-3	≥ 345 mg/L/72hr (Green algae)	N/Av	None.
Sodium carbonate	497-19-8	N/Av	N/Av	None.
Pine needle oil	8000-26-8	> 15 mg/L/72hr (Green algae)	N/Av	None.

Persistence and degradability

: No data is available on the product itself.
Contains the following chemicals which are not readily biodegradable: Sodium metasilicate pentahydrate; Sodium carbonate.
The following ingredients are considered to be readily biodegradable: Pine needle oil.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Pine needle oil (CAS 8000-26-8)	2.9	N/Av

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS

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Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.
Empty containers retain residue and can be dangerous. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN3253	DISODIUM TRIOXOSILICATE MIXTURE	8	III	
TDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption.				
ICAO/IATA	UN3253	Disodium trioxosilicate mixture	8	III	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				
IMDG	UN3253	DISODIUM TRIOXOSILICATE MIXTURE	8	III	
IMDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass.				

Special precautions for user : Appropriate advice on safety must accompany the package. Avoid release to the environment.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

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

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI:
Mineral oil (< 1%) (Part 5: Other groups and mixtures)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

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International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Sodium metasilicate pentahydrate	10213-79-3	229-912-9 (anhydrous)	Present	Present	(1)-508	KE-12354	Present	HSR003419
Sodium carbonate	497-19-8	207-838-8	Present	Present	(1)-164	KE-31380	Present	HSR003265
Pine needle oil	8000-26-8	290-163-6	Present	Present	Not listed	KE-27213	Present	May be used as a single component chemical under an appropriate group standard.

SECTION 16. OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CAS: Chemical Abstract Services
ENCS: Existing and New Chemical Substances
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RTECS: Registry of Toxic Effects of Chemical Substances
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2017.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2017 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2017.

Preparation Date (mm/dd/yyyy)

: 04/10/2017

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

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