

**SECTION 1 - PRODUCT IDENTIFICATION**

**Product identifier/Trade name:** RADIKAL  
**Product code/Internal Identification:** None  
**Product use/Description:** Liquid detergent 1L, 4 L, 20 L and 205 L containers.  
**Product chemical name:** Mixture  
**Chemical family:** N/Av  
**MSDS preparation/review date:** December 23, 2016  
**Supplier identifier:** Les Produits LAV Inc.  
 8834 Pascal Gagnon suite1, Saint-Léonard, Montréal Québec, H1P 1Z3  
 Téléphone : 514 439-8880 Télécopieur : 514 564-8034  
**Manufacturer identifier:** Same as supplier  
**Emergency phone number:** (613) 996-6666 (CANUTEC)  
**WHMIS Classification:** D1A – Toxic material with immediate and serious effects  
 D2B – Toxic material with other effects  
 E – Corrosive material

**SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS**

Hazardous Ingredients	CAS #	% (weight)	LD <sub>50</sub> (route, species)	LC <sub>50</sub> (species)
Benzenesulfonic acid, dodecyl-, sodium salt	25155-30-0	10-15	438 mg/kg (Oral, rat)	N/Av
Sodium laureth sulfate	9004-82-4	1-5	1600 mg/kg (Oral, rat)	N/Av
Ethanolamine	141-43-5	1-5	1720 mg/kg (Oral, rat) 1 mL/kg (Dermal, rabbit)	N/Av

**SECTION 3 - HAZARDS IDENTIFICATION**

**Emergency Overview**  
 Pink liquid. Fruits odor. CAUTION! Irritant. Causes eye and skin irritation.  
**\*POTENTIAL HEALTH EFFECTS\***  
**Primary entry route(s):** Skin contact, skin absorption, eye contact, ingestion and inhalation.  
**Effects of short-term (acute) exposure:**  
**Inhalation:** No risk  
**Skin:** Direct skin contact may cause moderate irritation.  
**Eye:** Direct eye contact may cause moderate eye irritation. Symptoms may include redness, stinging, tearing and pain.  
**Ingestion:** Ingestion may cause irritation to the mouth, throat and stomach. Symptoms may include dizziness, drowsiness, nausea, headache and other central nervous system effects.  
**Effects of long-term (chronic) exposure:**  
 Prolonged or repeated contact may cause drying, cracking and defatting of the skin (dermatitis).  
**Other important hazards:**  
 Refer to Section 11, Toxicological Information, for further information.

**SECTION 4 - FIRST AID MEASURES****Inhalation:**

Remove source of contamination or have victim move to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.

**Skin contact:**

Wash contaminated area with running water for at least 30 minutes, while removing contaminated clothing. Obtain medical attention. Launder contaminated clothing before re-use.

**Eye contact:**

Immediately flush the contaminated eye(s) with gently flowing water for at least 30 minutes. Obtain medical attention.

**Ingestion:**

NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

**SECTION 5 - FIRE FIGHTING MEASURES****Fire hazards/conditions of flammability:**

Does not burn under normal handling conditions.

**Flash point (Method):** N/Ap

**Lower flammable limit (% by volume):** N/Ap

**Upper flammable limit (% by volume):** N/Ap

**Sensitivity to mechanical impact:** N/Ap

**Sensitivity to static discharge:** N/Ap

**Auto-ignition temperature:** N/Av

**Suitable extinguishing media:**

Carbon dioxide, dry chemical powder and appropriate foam for surrounding products.

**Special fire-fighting procedures/equipment:**

During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

**Hazardous combustion products:** Carbon oxides and other irritating fumes and smoke.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES****Personal precautions:**

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment (See Section 8).

**Spill response/Cleanup:**

Ventilate area of release. Stop the leak if it can be done safely. Contain and absorb any spilled liquid concentrate with inert absorbent material, then place material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

**Environmental precautions:**

Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

**SECTION 7 - HANDLING AND STORAGE****Safe handling procedures:**

Before handling, it is very important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Inspect containers for leaks before handling. Label containers appropriately. Ensure proper ventilation. Avoid breathing vapors or mists. Avoid contact with eyes, skin and clothing. Avoid generating high concentrations of vapours or mists. Keep away from incompatible materials such as strong oxidizing materials. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous.

**Storage requirements:**

Store in a cool, well-ventilated area, away from heat and ignition sources. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labelled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.

**Incompatible materials:**

STRONG OXIDIZING MATERIALS (e.g. Chlorides, Peroxides).

**SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Exposure limits:** There is no available data for the product. See below for individual ingredient exposure limits.

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Benzenesulfonic acid, dodecyl-, sodium salt	N/Av	N/Av	N/Av	N/Av
Ethanolamine	3 ppm	6 ppm	3 ppm	6 ppm
Sodium laureth sulfate	N/Av	N/Av	N/Av	N/Av

**Engineering controls:**

Use under well-ventilated conditions. Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

**Respiratory Protection:**

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirators if the exposure limits are unknown.

**Protective Clothing/Equipment:**

Chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact, must be worn during all handling operations. Wear protective chemical splash goggles to prevent mists from entering the eyes. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**General Hygiene Considerations:**

Avoid generating high concentrations of vapours or mists. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material. Remove and wash contaminated work clothing before re-use.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state, colour and odour:</b>	Pink liquid. Fruits odor.		
<b>Odour threshold:</b>	N/Av		
<b>pH:</b>	6.8	<b>Boiling point:</b>	N/Av
<b>Melting/freezing point:</b>	N/Av	<b>Vapour pressure (@ 20°C):</b>	N/Av
<b>Coefficient of oil/water distribution:</b>	N/Av	<b>Solubility in water:</b>	Instantly
<b>Specific gravity or density (water = 1):</b>	1.02	<b>Vapour density (Air = 1):</b>	N/Av
<b>Evaporation rate (n-Butyl acetate = 1):</b>	N/Av	<b>% volatile by volume:</b>	N/Av

**SECTION 10 - REACTIVITY AND STABILITY DATA****Stability and reactivity:**

Stable under the recommended storage and handling conditions prescribed.

**Polymerization:**

Hazardous polymerization will not occur.

**Conditions to avoid:**

None known.

**Materials to avoid:**

Incompatible materials (see Section 7).

**Hazardous decomposition products:**

None known. Refer to 'Hazardous combustion products', Section 5.

**SECTION 11 - TOXICOLOGICAL INFORMATION****Toxicological data:**

There is no available data for the product itself, only for the ingredients. **For more details, refer to Section 2.**

**Carcinogenicity:** No ingredient listed by IARC, ACGIH, NTP or OSHA as a carcinogen.

**Teratogenicity, mutagenicity, other reproductive effects:** N/Av

**Skin sensitization:** N/Av

**Respiratory tract sensitization:** N/Av

**Conditions aggravated by exposure:** None known

**Synergistic materials:** N/Av

**SECTION 12 - ECOLOGICAL INFORMATION**

**Environmental effects:** There is no available data 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.

**Important environmental characteristics:** N/Av

**Aquatic toxicity:** N/Av

**SECTION 13 - WASTE DISPOSAL****Handling and storage conditions for disposal:**

Store material for disposal as indicated in Handling and Storage (Section 7). Do not puncture or incinerate empty spray cans.

**Methods of disposal:**

Review federal, provincial and local government requirements prior to disposal.

**SECTION 14 - TRANSPORTATION INFORMATION****Transportation of Dangerous Goods Regulations (TDGR) :**

*Shipping description:* This product is not regulated according to TDGR.

Proper shipping name: N/Av

Class: N/Av

Identification number: N/Av

Packing group: N/Av

Special case: N/Av

**SECTION 15 - REGULATORY INFORMATION****WHMIS information:**

Product is regulated according to the Controlled Product Regulations (CPR) in Canada. Refer to Section 1 for the appropriate WHMIS classification.

*This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.*

**Canadian Environmental Protection Act (CEPA) information:**

The ingredients in this product are listed on the DSL.

**United States OSHA information:**

This product is regulated according to OSHA. This MSDS contains all the information required by OSHA.

**United States TSCA information:**

The ingredients in this product are listed on the TSCA.

**United States California (Proposition 65):**

No ingredient listed. This product may contain traces of chemicals known to the State of California to cause cancer and/or developmental reproductive harm.

**United States New Jersey (Right to Know):**

The ingredients below are listed:

**Hazardous Ingredients**

	CAS #	% (weight)
Benzenesulfonic acid, dodecyl-, sodium salt	9016-45-9	1-5
Ethanolamine	141-43-5	5-10

**National Fire Protection Association (NFPA):**

HEALTH: 1    FLAMMABILITY: 0    INSTABILITY: 0    SPECIAL HAZARDS: None.

HAZARD SCALE: 0 = Minimal    1 = Slight    2 = Moderate    3 = Serious    4 = Severe

**SECTION 16 - OTHER INFORMATION**

**Prepared by:** Regulatory affairs Les Sanitaires LAV Inc.

**Telephone number:** Téléphone 514 439-8880

**MSDS preparation/review date:** 23 DECEMBER 2016

**References:**

1. Material Safety Data Sheets from manufacturer/supplier.
2. CSST, Répertoire Toxicologique, Les produits, 2015
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015

**Abbreviations:**

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
CAS	Chemical Abstract Service
DSL	Domestic Substance List
IARC	International Agency for Research on Cancer
LC	Lethal concentration
LD	Lethal Dosage
N/Ap	Not applicable
N/Av	Not available
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
STEL	Short-term Exposure Limit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WEEL	Workplace Environmental Exposure Level
WHMIS	Workplace Hazardous Materials Information System

**End of the MSDS**