SECTION 1 - IDENTIFICATION

Name of product: Krystal
Product code/Internal identification: N/A
Use: Glass and window cleaner for 1L, 4 L, 20 L and 205 L containers.
Use restriction: Do not ingest, inhale or make contact with the eyes
Date of the material safety data sheet: 11th of March 2019
Supplier/manufacturer identification:

Produits LAV Inc.
8834 Pascal-Gagnon, Saint-Leonard, Québec, H1P 1Z3
Phone : (514) 439-8880 Email: contact@monlav.com

Emergency phone number: (613) 996-6666 (CANUTEC)

2 - IDENTIFICATION OF DANGERS

SIMDUT Classification:

D1A – Toxic material with immediate and serious effects
D2A – Toxic material with other effects
E – Corrosive material

Overview in case of emergency

Blue liquid. Odor of ammonia. DANGER: May cause eye irritation or burns. Harmful if inhaled or swallowed. May cause headache, nausea, dizziness, and other adverse effects on the central nervous system.

*** POTENTIAL HEALTH EFFECTS***

Route of administration:

Skin contact, skin absorption, eye contact, ingestion and inhalation.

Effects of short-term exposure (acute)

Inhalation:

May cause irritation to the nose, throat and respiratory tract and central nervous system depression. Symptoms: headache, nausea, vomiting, loss of coordination and other effects on the central nervous system. Inhalation of extremely high concentrations may act as an asphyxiant and cause increased pulse and breathing frequency, fatigue, nausea, vomiting and unconsciousness.

Skin:

Direct skin contact may cause minimal irritation to sensitive skin.

Eyes:

Direct eye contact may cause irritation or moderate burn. Symptoms: redness, burning, tearing and pain.

Ingestion:

Ingestion may cause irritation or burning of the mouth, throat and stomach. Symptoms: dizziness, drowsiness, nausea, headache and other effects on the central nervous system. May cause blindness and even death..

Mention of danger(s):

H301 Toxic if swallowed.

H311 Toxic by skin contact.

H331 Toxic by inhalation.

H370 Causes damage to organs (eyes) if swallowed.

Precautionary statements:

Prevention:

P201 Obtain instructions before use.

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

P233 Keep the container tightly closed.

P240 Grounding / equipotential bonding of the container and receiving equipment.

Intervention :

P301 + P310 IF SWALLOWED: Call a POISON CONTROL CENTER / doctor immediately.

P330 Rinse your mouth.

P303 + P361 + P353 IN CASE OF SKIN CONTACT (or hair) : Remove contaminated clothing immediately. Rinse the skin with water / shower.

P312 Call a POISON CONTROL CENTER / doctor if you feel unwell.

P363 Wash contaminated clothing before reuse.

P304 + P340 IN CASE OF INHALATION : Take the person outdoors and keep them in a position where they can comfortably breathe.

P312 Call a POISON CONTROL CENTER / doctor if you feel unwell.

P321 Specific treatment (see additional first aid instructions on this label).

P308 + P313 If exposure is proven or suspected: Get medical attention.

Stockage : Stock in a well vented area. Keep in a fresh area. Keep the container tightly closed. Keep locked.

Elimination : Dispose of the content/container according to regional regulations and laws, national and local applicable.

Effects of long term exposure (chronic) : N/A

Other important dangers : N/A

Consult Section 11 “Toxicological properties” for more information.

SECTION 3: COMPOSITION/INFORMATION OF THE INGREDIENTS

CHEMICAL COMPOSITION

Hazardous ingredients	CAS No.	% (weight)
2-Butoxyethanol	111-76-2	0.1-1
Methanol	67-56-1	5-10
Glucopon 425	197099-29-9	0-1

Notes

The specific identity of the chemical product and/or the exact percentage used in the composition (concentration) has not been divulged due to commercial secrets.

SECTION 4: FIRST AID

First aid measure

Inhalation
Take precautions to ensure your own safety before attempting rescue (eg wear appropriate protective gear). Remove the source of exposure or move to fresh air. Keep at rest in a comfortable position to breathe. If breathing is interrupted, qualified personnel should begin artificial respiration. If the heart stops, a specially trained person should begin Cardiopulmonary Resuscitation (CPR) or Automated External Defibrillation (AED). Avoid mouth-to-mouth contact using a protective device. Seek medical advice / help if the victim feels discomfort or concern.

Skin contact
Avoid direct contact. Wear a chemical protection suit, if necessary. Remove contaminated clothing, shoes and leather goods (eg watchbands, belts) immediately. Rinse gently and thoroughly with lukewarm water and mild soap for 5 minutes. Get medical advice / attention if you feel unwell or worried. Thoroughly wash clothing, shoes and leather goods before reuse or disposal in a safe manner.

Eye contact
Avoid direct contact. Wear chemical protection gloves if necessary. Rinse
immediately warm eyes gently with warm water for at least 30 minutes while holding eyelids open. If eye irritation persists, consult a doctor.

Ingestion
Rinse mouth with water. **NEVE**R give anything by mouth to a victim who is losing consciousness, is unconscious or has convulsions. **DO NOT VOMIT**. In case of spontaneous vomiting, extend to the side in a recovery position. Rinse mouth again with water. If breathing is interrupted, qualified personnel should immediately start artificial respiration. In case of cardiac arrest, a specially trained person should begin CPR or Automated External Defibrillation (AED). Avoid mouth-to-mouth contact using a protective device. Call a poison control center or doctor immediately. Treatment is urgently needed.

Most important symptoms and effects, both acute and delayed No specific treatment. Symptomatic treatment required. Contact the poison control specialist immediately if large amounts have been ingested or inhaled.

Immediate medical care or special treatment

Target organs
Eyes, liver, nervous system.

Special instructions
Intense exposure to methanol, by ingestion or breathing at high concentrations in the air, can cause symptoms within 40 minutes to 72 hours after exposure. Symptoms and signs are usually limited to the central nervous system, eyes and gastrointestinal system. Because of the initial effects on the central nervous system, such as headache, dizziness, lethargy and confusion, this may give the impression of ethanol intoxication. Blurred vision, reduced acuity and photophobia are common effects encountered. Treatment with ipecac or lavage is indicated for any patient who comes within two hours of ingestion. Deep metabolic acidosis occurs in cases of severe poisoning and blood bicarbonate levels are a more adequate measure of severity than methanol levels in the blood. Treatment protocols are available in most major hospitals and timely cooperation with appropriate hospitals is recommended.

Health problems aggravated by exposure to the product
Respiratory disorders.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing agents
Suitable extinguishing agents
Use cold water.
Unsuitable extinguishing agents

Water is not effective in fighting a fire. It can not cool the product below its flash point.

Specific dangers for the product

Highly flammable liquid and vapor. May ignite at room temperature. Releases steam that can form an explosive mixture on contact with air. May ignite due to static discharge. May accumulate electrostatic charge by flow, splash or agitation.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency measures

Evacuate the area immediately. Isolate the danger zone. Do not let superfluous or unprotected personnel enter. Evacuate places that are in the direction of the wind. Use personal protective equipment recommended in Section 8 of this safety data sheet to increase ventilation in the area or move the unsealed container to a well-ventilated and safe area. Eliminate all sources of ignition. Use grounded and explosion-proof equipment. May accumulate in hazardous quantities near the ground, especially in confined spaces, if ventilation is not sufficient. Possibility of a flashback and a remote ignition.

Environmental precautions

Prevent entry into sewers, soil, or streams.

Methods and materials for containment and cleaning

Stop the leak if without risk. Move the containers from the spill area. Release from approaching the wind. Prevent entry into sewers, waterways, basements or enclosed areas. Wash overflows in an effluent treatment plant or proceed as follows. Contain and collect leaks with non-combustible material, eg absorbent. sand, earth, vermiculite or diatomaceous earth and place in the container for disposal in accordance with local regulations (see section 13). Use explosion-proof tools and explosion-proof equipment. Dispose of by a licensed waste disposal contractor. Contaminated absorbent material may present the same risks as the spilled product. Note: see Section 1 for Emergency Coordinated and Section 13 for Waste Disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where these materials are processed, stored and processed. Workers wash their hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless proper ventilation is provided. Store in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use heat, sparks, flames or other sources of ignition. Use explosion-proof electromedical (ventilation, lighting and handling equipment). Use tools without sparks. Take precautionary measures against electrostatic discharge. To prevent fire or explosion, dissipate static electricity during the transfer of grounding and continuity of containers and equipment before transferring equipment. Empty containers retain product residues and can be dangerous. Do not reuse the container.

Security conditions for storage

Store in accordance with local regulations. Store in a separate and approved area. Store in the original container protected from sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all sources of inflammation. Separated from oxidizing materials. Keep the container tightly closed and sealed until ready for use. Containers that have been opened must be closed carefully and remain level to avoid leaks. Do not store in unlabelled containers. Proper containment helps to prevent contamination of the environment.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Control settings

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical name	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Methanol	200 ppm	250 ppm	200 ppm	250 ppm		

2-Butoxyethanol	20 ppm		25 ppm			
Glucopon 425	3 ppm	6 ppm	3 ppm	6 ppm		

Appropriate engineering controls

General ventilation is usually adequate. For use on a bigger scale of the product : do not allow product to accumulate in the air in work or storage areas, or in closed areas. Use an exhaust ventilation system at the source, if general ventilation is not sufficient to control the amount of product in the air. Use a non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static discharges by grounding the equipment. Use only compatible incombustible materials for walls, floors, ventilation system, air purifiers, pallets and shelves.Provide an emergency shower in the work area if there is a risk of contact or splashing.

Individual protection measures

Protection of eyes and face

Wear goggles against chemicals products.

Protection of the skin

Wear protective clothing against chemicals (eg gloves, aprons, boots).

Nitrile rubber.

Protection of respiratory tracts

Usually not required if the product is used as directed. For irregular or emergency situations: wear NIOSH approved air-purifying respirator with organic vapor cartridge.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Basic physical and chemical properties

Appearance	Light blue ligquid
Scent	Acre
Olfactory threshold	N/A
pH	8 - 11 (100% solution)
Melting Point / Freezing Point	Not available (fusion); -10 ºC (14 ºF) (freezing)
Initial boiling point and boiling range	Not avaialble
Flashpoint	27.7 ºC (81.9 ºF) (in insolation)
Evaporation rate	Not available
Flammability (solids and gases)	Not applicable
Upper / lower limits Flammability or of Explosion	Not available (superior); Not available (inferior)
Steam voltage	N/A
Density of vapor	N/A
Relative density (water = 1)	Relative density (water=1)
Solubility	Soluble. In water; Soluble regardless of the proportions in alcohols (eg ethanol).
Coefficient of sharing n-octanol / water	N/A
Température d'auto-inflammation	N/A
Auto-ignition temperature	N/A
Viscosity	N / A (kinematic); N / A (dynamic)
Other informations	
Physical state	Liquid
Molecular weight	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity
Unknown
Chemical Stability
Usually stable.
Risk of dangerous reactions
Unknown
Conditions to avoid
Heat. Open flames, sparks, electrostatic discharge, heat and other sources of ignition.
Incompatible materials
Slightly reactive or incompatible with the following materials: oxidizing agents (eg, peroxides), strong acids (eg. hydrochloric acid), strong bases (eg. sodium hydroxide).
Non corrosive for metals.
Hazardous decomposition products
Highly toxic carbon monoxide and carbon dioxide; Flammable formaldehyde and very toxic.

SECTION 11: TOXICOLOGICAL DATA

Voies d'exposition probables
Ingestion; contact oculaire; contact avec la peau; inhalation.
Toxicité aiguë

Nom chimique	CL50	DL50 (oral)	DL50 (cutaneous)
Methanol	83867.5 mg/m3 (rat) (4 hours of exposition)	5628 mg/kg (rat)	15800 mg/kg (rabbit)
2-Butoxyethanol	450 mg/m3 (rat) (4 hours of exposition)	320 mg/kg (rabbit)	220 mg/kg (rabbit)
Glucopon 425	Unlisted	Unlisted	Unlisted

CL50: Not applicable.
DL50 (oral): Not applicable.
DL50 (cutaneous): Not applicable

Skin Corrosion / Irritation
The experiment on humans shows a very slight irritation.

Serious eye damage / eye irritation
The experiment on humans shows a severe eye irritation..

Specific target organ toxicity - single exposure
Inhalation
In high concentrations severe irritation to the nose and throat.
Low concentrations of blood function tests may show abnormal results. Destruction of red blood cells (hemolytic anemia). (2-Butoxyethanol)
Absorption through the skin may be harmful based on animal testing.
Ingestion
Toxic, can cause death depression of the central nervous system, disturbances of the sight and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. Severe exposure can cause abdominal and muscular pain, breathing difficulties and coma. The view may be affected and permanent blindness may result. There could be other permanent effects to the nervous system.

p. ex. tremors and fits.

Breathing hazard
It is not deemed to constitute a danger of aspiration.
Specific target organ toxicity - repeated exposure
If swallowed: Liver function tests may show abnormal results.
Harmful from animal studies. In case of inhalation: a decrease in the number or size of red blood cells (anemia). (2-Butoxyethanol)
Respiratory or skin sensitization
It is not deemed to be a respiratory sensitizer. Is not considered to be a respiratory sensitizer.

Carcinogenicity

Chemical name	CIRC	ACGIH®	NTP	OSHA
Methanol	Unlisted	Not designated	Unlisted	Unlisted
2-Butoxyethanol	Group 3	A3	Unlisted	Unlisted
Glucopon 425	Unlisted	Unlisted	Unlisted	Unlisted

Reproductive toxicity
Development of offspring
Not known to cause effects on sexual function or fertility.
Effects on or via breastfeeding: None
No information have been found.
Germ cell mutagenicity
The limited studies available are inconclusive.
Interaction effect
No information have been found.

SECTION 12: ECOLOGICAL DATA

Ecotoxicity
Long-term hazards to the aquatic environment

Chemical name	LC50 for fishes	EC50 for shellfish	ECr50 for aquatic plants	ECr50 for algae
Methanol	15400 mg/L (Lepomis macrochirus (bluegill harlequin); 96 hours)	10000 mg/L (Daphnia magna (water chip); 48 hours)		
2-Butoxyethanol	220 mg/L (Oncorhynchus mykiss (trout) Rainbow); 96 hours; pure water)	1815 mg/L (Daphnia magna (water chip); 24 hrs)		
Glucopon 425				

Long-term hazards to the aquatic environment

Chemical name	CSEO for fishes	CE50 for fishes	CSEO for shellfish	CE50 for shellfish
Methanol	7900 mg/L (Lepomis macrochirus (crapet arlequin); 200-hrs)			
2-Butoxyethanol	N/A		N/A	
Glucopon 425				

Persistence and degradation
Degrades rapidly, according to quantitative tests.
Potential for bioaccumulation
This product and its degradation products should not be bioaccumulative.
Mobility on the ground
Not determined
Other harmful effects
No information available

SECTION 13: DISPOSAL DATA

Disposal method
The generation of waste should be avoided or minimized as much as possible. Empty containers or liners may retain some product residue. This product and its container must be disposed of safely. Eliminate excess and non-recyclable products produced by a licensed waste disposal contractor. The disposal of this product, solutions and by-products must at all times comply with the requirements of environmental protection and disposal legislation and any requirements of the local local waste authority. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: INFORMATIONS RELATIVE TO TRANSPORT

Regulation	UN number	Proper shipping name	Transport hazard class(es)	Group packing
Canadian TDG	1987	ALCOHOLS (Methanol)	3	III
US DOT	1987	ALCOHOLS (Methanol)	3	III

Hazards for the environment	Not applicable
Special precautions about transport	Please note: In containers of 450L or less, this product meets the exemption requirements under the special provisions of the TDG Regulations, Part 1, Section 1.36b: Class 3, Flammable Liquids: Exemption for Alcohols. In containers of 5 litr (5Kg) or less, this product is classified as "Good of consumption "under the DOT Regulation

Transport in bulk (under Annex II of MARPOL 73/78 and the IBC Code)
Not applicable

SECTION 15: REGULATION INFORMATIONS

Regulations on safety, health and the environment

Canada

- Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)
- All ingredients are listed on the DSL / NDSL.

États-Unis

- Toxic Substances Control Act (TSCA) Section 8(b)
- All ingredients are on the TSCA inventory.
- Other US Regulatory Lists
- California Proposition 65: WARNING: This product contains chemical agents recognized by the state of California as causing birth defects.

SECTION 16: OTHER INFORMATIONS

MSDS prepared by	Produits LAV Inc. for Dissan Inc.
Phone number	511.439.8880
Preparation date	March 11, 2019
Other informations	We are committed to supporting the voluntary industry initiative for the disclosure of ingredients to consumers. Please send us your request by visiting: www.recochem.com.

Notice
Ingredients (ingredients intentionally added) in a concentration greater than one percent (1%) must be listed in descending order of predominance. Ingredients present in a concentration of not more than one percent (1%) must also appear, but in no order of predominance.

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