PRODUCT NAME: **ABRO Lock De-Icer**
PRODUCT NUMBER/SIZE: **LD-111** **Revision Date: 6/15/2015**

SECTION 1
Identification of the Substance and of the Company/Undertaking

MANUFACTURER'S NAME:	**ABRO INDUSTRIES, INC.**
ADDRESS:	**3580 Blackthorn Drive** **South Bend, IN 46628 USA**
PRODUCT DESCRIPTION:	**Lock De-Icer / Lock Maintenance**
COMPANY PHONE:	**574-232-8289**
EMERGENCY 24-HR TELEPHONE:	**Chemtrec: US/Canada 1-800-424-9300** **International +1-703-527-3887**

SECTION 2
Hazards Identification

Classification:
Extremely Flammable Aerosol Category 1
Eye Irritation Category 2A
Specific Target Organ Toxicity (Single Exposure) – Category 3

Label Pictogram(s):

Signal Word: **DANGER**

Hazard Phrases: Extremely flammable aerosol. May cause drowsiness or dizziness. Causes serious eye irritation.

Precautionary Phrases: Pressurized container: may burst if heated. No smoking. Keep away from and do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Keep container tightly closed. Avoid breathing spray. Use only outdoors or in a well-ventilated area. Wear eye protection.

Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, call a doctor or POISON CENTER
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

Storage / Disposal: Store locked up in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Dispose of contents/ container in compliance with local, state and federal regulations.

Other: Keep out of reach of children. If medical advice is needed, have product container or label at hand. Read label before use.

SECTION 3
Composition/Information on Ingredients

COMPONENTS	CAS Number	Percent by weight
Isopropanol (IPA)	67-63-0	> 50 %
Carbon dioxide	124-38-9	> 10 %

SECTION 4
First Aid Measures

First Aid Measures

Immediate Medical Attention: WARNING! Flammable. Eye, skin and respiratory irritant. May cause central nervous system effects. Primary routes of exposure are skin and eye contact or inhalation. May aggravate pre-existing eye, skin and respiratory disorders. May affect mucous tissue or mucous membrane dysfunction. See section 11.

Eyes Flush eye with clean water for at least 20 minutes while gently holding eyelids open. Get immediate medical attention.

Skin Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops

Ingestion Do NOT induce vomiting. Give two glasses of water if patient is NOT unconscious or drowsy. Keep victims head below hips to prevent aspiration if vomiting. Get medical attention immediately.

Inhalation Remove patient to fresh air. Administer oxygen if breathing is difficult. Get immediate medical attention.

Signs & Symptoms Of Over Exposure: May irritate the skin. Severe eye irritant. May cause corneal burns. May cause irritation to the nose, throat and respiratory tract and may result in central nervous depression (narcotic effect). May cause coughing, shortness of breath, dizziness and intoxication. Irritating to the gastrointestinal tract, causing abdominal pain and vomiting, sometimes bloody. Ingestion may cause CNS depression, low blood pressure, rapid heartbeat and liver damage. Repeated or prolonged exposure may irritate mucous membranes.

Special Treatment: **Note to Physician:** Eye: if pain, tears, or redness continue, patient should contact an ophthalmologist. Detoxification procedure: administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

SECTION 5
Fire Fighting Measures

Extinguishing media Water, carbon dioxide, dry chemical, alcohol foam

Hazardous Combustion: Carbon monoxide and other unknown organic compounds.

Protective Equipment and Precautions for firefighters:	Clear area of unprotected personnel. Fight fire from safe distance. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots) and positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water spray. Heat may build enough pressure to rupture closed containers/ spreading fire/ increasing risk of burns/injuries. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors are heavier than air, travel along floor to ignition source and flash back. Diluting with water may not suffice to raise flash point above ambient temperatures. Burning liquid may float on water. Avoid frothing/steam explosion.
Flammability per Flame Projection Test	Not available.
General fire and explosion characteristics:	Flammable liquid class IB

SECTION 6
Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Avoid personal contact. Eliminate ignition sources. Ventilate area. Equip responders with proper protection. Dike, contain and absorb with clay, sand or other suitable material.
Methods/materials for containment and cleanup:	Wear appropriate respirator and protective clothing. For large spills, blanket with firefighting foam. Pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue. Small spills- take up with an absorbent material and place in appropriate containers for disposal. Contain / collect rapidly to minimize dispersion. Prevent spill from entering drainage/sewer systems, waterways, and surface waters. Use bonding/ grounding lines and non-sparking tools. On water, material is soluble and may float or sink. May biodegrade. Report per regulatory requirements.
Environmental precautions:	No information available.

SECTION 7
Handling and Storage

Precautions for Safe Handling	Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Do not breathe vapor or mist. Ground container when pouring. Use non-sparking tools. Handle empty containers with care, vapor residue may be flammable/explosive. Material may attack some forms of plastic, aluminum, rubber, and coatings.

Conditions for Safe Storage

Keep in a cool place, without direct exposure to sunlight. Keep containers away from heat, sparks, open flames, and strong oxidizers. Keep container tightly closed and otherwise in accordance with NFPA regulations. Maintain air space in storage containers

SECTION 8
Exposure Controls/Personal Protection

Constituent	CAS No.	ACGIH TLV	OSHA PEL	Other Limits
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm	n/e
Isopropanol (IPA)	67-63-0	400 ppm	400 ppm	400 ppm (Canada)

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit."n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

Engineering Controls: Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits. Keep container tightly closed. Observe label precautions. Have emergency eye wash and safety shower present.

Personal Protective Equipment:

Skin Chemical-resistant gloves (Neoprene, nitrile) and other gear as required to prevent skin contact.

Eyes and Face Wear safety glasses. Wear coverall chemical splash goggles and face shield when eye and face contact is possible. Do not wear contacts.

Respiratory A NIOSH/MSHA air purifying respirator with an organic vapor cartridge may be permissible as exposure levels dictate.
However use a positive pressure air supplied respirator if there is any potential for uncontrolled release, or unknown exposure levels.

SECTION 9
Physical and Chemical Properties

Appearance and Physical State:	Aerosol containing clear liquid
Odor:	Solvent odor
Odor Threshold:	Not Available.
pH:	Not determined
Melting Point/Freezing Point:	-127 F
Initial boiling point & boiling range:	180 F
Flash Point:	53 F TCC
Evaporation rate:	1.4 (butyl acetate = 1)
Flammability (solid, gas):	Not Available.
Upper/lower flammability or explosive limits:	2 (lower) 12.7 (upper)
Vapor pressure:	33 mm Hg at 68 F
Vapor density:	2.1 (air = 1)
Relative density / Specific gravity:	0.789
Solubility:	Completely soluble in water
Partition Coefficient n-Octanol/Water:	Not Available.
Auto-ignition Temperature:	Not Available.

Decomposition Temperature:	Not Available.
Viscosity:	Not Available.
VOC Content:	790 grams / liter.
CARB VOC Category/Standard (%):	Not Available.
OTC Model Rule Category/Standard (%):	Not Available.
US EPA Cons Prod Category/Standard (%):	Not Available.
Percent Volatile by Volume:	100%
Percent Solids by Weight:	0 %

SECTION 10
Stability and Reactivity

Reactivity	Product is non-reactive under normal conditions of use.
Chemical Stability:	The material is chemically stable. Hazardous polymerization will not occur.
Possibility of hazardous reactions:	None known.
Conditions to avoid (e.g. static discharge, shock or vibration):	Avoid heat, open flames, temperatures above 120 degrees F and ignition sources, and oxidizing conditions.
Incompatibilities:	Strong oxidizing agents. Aluminum metals, NITROFORM, sulfuric acid.
Hazardous decomposition products:	Oxides of carbon and unidentified organic combustion product
Hazardous polymerization:	Will not occur. Not Applicable.

SECTION 11
Toxicological Information

Likely Routes of Exposure: Skin or eye contact and inhalation.

Symptoms:

Delayed and Immediate Effects:

Acute oral: LD50 (rat) no data available
Acute dermal: LD50 (rabbit) no data available.

Serious eye irritant. Rat and mouse inhalation toxicity: The sub chronic NOAEL was 500 ppm based on clinical signs of CNS depression (both species) and increased body weight and blood effects (rat only) seen at 1500 ppm

Chronic Effects:

In response to a TSCA test rule, several studies of IPA have now been completed. The studies and their results are as follows: 1) Both mutagenicity studies, the mouse micronucleus and CHO assays, were negative. 2) Rat and rabbit oral teratogenicity and developmental toxicology: a) there was no evidence that IPA caused teratogenicity in rats or rabbits. b) Developmental toxicity was seen in rats at 1200 mg/kg (evidenced by body weight) while no developmental toxicity was seen in the rabbit study. For rats, the NOAEL was 400 mg/kg; for rabbits 480 mg/kg. This work also identified pregnant rabbits to be approximately eight

	times more sensitive to IPA's lethal effects than non-pregnant rabbits. No information available. In rat inhalation neurotoxicity and oral developmental neurotoxicity studies, there was no evidence that IPA caused neurotoxicity in adults (max dose 5000 ppm) or offspring (max dose 1200 ppm).
Toxicity Measures:	**Carbon Dioxide:** LD50 data not determined. **Isopropanol:** LD50 (oral, rat) = 5045 mg/kg LD50 (dermal, rabbit) = 12.8 g/kg LC50 (inhalation, rat, 4hr) = 22627 ppm
NTP Carcinogen:	No.
IARC Carcinogen:	No.
OSHA Carcinogen:	No. No cancer suspect carcinogens

SECTION 12
Ecological Information

Ecotoxicity:	No information available.
Persistence and Degradability:	No information available.
Bioaccumulation Potential:	No information available.
Mobility in Soil:	No information available.
Other Adverse Effects:	No information available.

SECTION 13
Disposal Considerations

Storage and Disposal	Store locked up in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
Waste Disposal Method:	If this product becomes a waste, it would be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

SECTION 14
Transport Information

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

U.S. DOT	UN/ID Number:	UN1950
	Proper shipping name:	Aerosols
	Hazard class:	2.1
	Packing Group:	None
	Exceptions:	May be shipped as a limited quantity or consumer commodity
	Environmental Hazards:	No
	Transport in Bulk:	Not Applicable.
	Special Precautions:	ERG#126
IMO/IMDG	UN/ID Number:	UN1950
	Proper shipping name:	Aerosols
	Hazard class:	2.1
	Packing Group:	None
	Exceptions:	May be shipped as a limited quantity
	Environmental Hazards:	No
	Transport in Bulk:	Not Applicable
	Special Precautions:	EmS F-D, S-U
ICAO/IATA	UN/ID Number:	UN1950
	Proper shipping name:	Aerosols, flammable
	Hazard Class:	2.1
	Packing Group:	None
	Exceptions:	May be shipped as a limited quantity or reclassified as ID8000
	Environmental Hazards:	No
	Transport in Bulk:	Not Applicable
	Special Precautions:	None
Canada (TDG)	UN/ID Number:	UN1950
	Proper shipping name:	Aerosols
	Hazard class:	2.1
	Packing Group:	None
	Exceptions:	May be shipped as a limited quantity
	Environmental Hazards:	No
	Transport in Bulk:	Not Applicable
	Special Precautions:	ERG#126
ADR (Europe)	UN/ID Number:	UN1950
	Proper Shipping Name:	Aerosols
	Hazard class:	2
	Packing group:	None
	Exceptions:	May be shipped as a limited quantity
	Environmental Hazards:	No
	Transport in Bulk:	Not Applicable
	Special Precautions:	Not Applicable

SECTION 15
Regulatory Information

U.S. Federal Regulations

TSCA: All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste: D001

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs.)	CA 12B Export Notification
Carbon dioxide	No	No	0.0	Not required
Isopropanol	No	Yes	100.0	Required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301

Extremely Hazardous Substance list.
**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard – Delayed health hazard -- Fire hazard -

Canadian regulations

WHMIS hazard class(es) : B2; D2B
All components of this product are on the Domestic Substances List.
Hazardous Materials Identification System (HMIS) Ratings:
Health: 2 Flammability: 3 Reactivity: 0

SECTION 16
Other Information

We believe all information given is accurate. It is offered in good faith but without guarantee. Since conditions of use are beyond our control, user assumes all responsibility and risk.

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

ABBREVIATIONS:

NG="NOT GIVEN"	BT="BETWEEN"
<="LESS THAN"	>="GREATER THAN"
ND = Not Determined	NA = Not Applicable