

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - IDENTIFICATION

**Product identifier** : **DURO**  
**Product Code(s)** : None reported.  
**Product Use** : Cold disinfectant.  
**Chemical Family** : Mixture.  
**Supplier's name and address:**  
**The Dodge Chemical Company (Canada) Ltd.**  
 1265 Fewster Drive  
 Mississauga, Ontario, Canada  
 L4W 1A2  
**Manufacturer's name and address:**  
 Refer to Supplier  
**Information Telephone #** : (905) 625-0311  
**24 Hr. Emergency Tel #** : (613) 996-6666 (CANUTEC)

### SECTION 2 - HAZARDS IDENTIFICATION

**Classification** : WHMIS classification:  
 Class B2 (Flammable Liquids);  
 Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);  
 Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);  
 Class D2B (Materials Causing Other Toxic Effects, Toxic Material).  
  
 OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:  
 Flammable liquid;  
 Acute Health Hazard;  
 Chronic Health Hazard.

**Emergency Overview** : Clear amber liquid. Mild, soapy odour.  
 Danger.  
 Flammable liquid and vapour. POISON! May be fatal if inhaled. Harmful or fatal if swallowed. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. Can cause cyanosis. Corrosive to eyes. May cause skin irritation. Prolonged overexposure may cause liver and kidney effects. Possible cancer hazard - contains material which may cause cancer.

### POTENTIAL HEALTH EFFECTS:

#### Signs and symptoms of short-term (acute) exposure

- Inhalation* : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. In extremely high concentrations, may cause coma, respiratory collapse and death.
- Skin* : May cause mild to moderate skin irritation. May be absorbed through the skin, producing symptoms similar to ingestion or inhalation.
- Eyes* : Severely irritating or corrosive. May cause stinging, burning, inflammation, and in extreme cases may produce corneal damage.
- Ingestion* : May be fatal if ingested. Causes irritation, burning sensation in the mouth and throat, and abdominal pain. Other symptoms may include nausea, vomiting, diarrhea, other central nervous system effects and possibly cyanosis (bluish discolouration of the skin) caused by methemoglobinemia (reduced oxygen-carrying capacity of blood). May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

#### Effects of long-term (chronic) exposure

- : Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Prolonged overexposure may cause liver and kidney effects. Delayed effects may include respiratory paralysis and convulsion.

**Carcinogenic status** : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

**Additional health hazards** : Possible mutagen. See TOXICOLOGICAL INFORMATION, Section 11.

#### Potential environmental effects

- : See ECOLOGICAL INFORMATION, Section 12.

**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Isopropanol	67-63-0	10.00 - 30.00
Propylene glycol	57-55-6	3.00 - 7.00
Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00 - 7.00
Sodium nitrite	7632-00-0	1.00 - 5.00
Ethanol	64-17-5	0.10 - 1.00
Formaldehyde	50-00-0	0.10 - 1.00

**SECTION 4 - FIRST AID MEASURES**

- Inhalation** : Immediately remove person to fresh air. If breathing stopped, begin artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
- Skin contact** : Immediately flush with plenty of water, while removing contaminated clothing. Get medical attention. Wash contaminated clothing before re-use.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. Obtain medical attention immediately.
- Ingestion** : Call a physician or Poison Control Centre immediately. Do not induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person.
- Notes For Physician** : Treat symptomatically.

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

- : Flammable liquid and vapour. Will ignite when exposed to heat, flame and other sources of ignition. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel considerable distance and flashback to a source of ignition. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

**Flammability classification (OSHA 29 CFR 1910.1200)**

- : Flammable Liquid Class 1B.

**Oxidizing properties**

- : None known.

**Explosion data: Sensitivity to mechanical impact / static discharge**

- : Not expected to be sensitive to mechanical impact. Vapours in the flammable range may be ignited by a static discharge of sufficient energy.

**Suitable extinguishing media**

- : Dry chemical, foam, carbon dioxide and water fog. Water may be ineffective because it may not cool product below the flashpoint.

**Special fire-fighting procedures/equipment**

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

**Hazardous combustion products**

- : Carbon oxides; nitrogen oxides (NOx); formaldehyde; Alcohol; Hydrogen chloride gas; other unidentified organic compounds.

**NFPA Rating**

- 0 - Minimal    1 - Slight    2 - Moderate    3 - Serious    4 - Severe  
: *Health:* 2    *Flammability:* 3    *Instability:* 0    *Special Hazards:* None.

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

- : Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Individuals involved in the cleanup must wear appropriate personal protective equipment. 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.

**Spill response/cleanup** : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Pick up and transfer to properly labelled containers. Refer to Section 13 for disposal of contaminated material. Notify the appropriate authorities as required.

**Prohibited materials** : Do not use combustible absorbents, such as sawdust.

**Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).  
US CERCLA Reportable quantity (RQ): Sodium nitrite (100 lbs / 45.4 kg); formaldehyde (100 lbs / 45.4 kg).

**SECTION 7 - HANDLING AND STORAGE**

**Safe Handling procedures** : Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Ground all equipment during handling. Keep away from acids and incompatibles. Wash thoroughly after handling.

**Storage requirements** : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

**Incompatible materials** : Oxidizing agents; Acids; Bases; Alkali metals.

**Special packaging materials** : Always keep in containers made of the same materials as the supply container.

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

**Exposure Limits**

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Isopropanol	200 ppm	400 ppm	400 ppm	N/Av
Propylene glycol	10 mg/m <sup>3</sup> (AIHA WEEL)	N/Av	N/Av	N/Av
Alkyl dimethyl benzyl ammonium chloride	N/Av	N/Av	N/Av	N/Av
Sodium nitrite	N/Av	N/Av	N/Av	N/Av
Ethanol	1000 ppm	N/Av	1000 ppm	N/Av
Formaldehyde	0.3 ppm (Ceiling)	N/Av	0.75 ppm	2 ppm

**Ventilation and engineering measures** : General mechanical ventilation and local exhaust is recommended for use with this product.

**Respiratory protection** : If mists are formed, or in confined spaces, respiratory protection may be required. NIOSH-approved respirators are recommended. Advice should be sought from respiratory protection specialists.

**Skin protection** : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

**Eye / face protection** : Chemical resistant goggles must be worn.

**Other protective equipment** : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn.

**General hygiene considerations** : Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with 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.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state** : Clear liquid. **Appearance** : amber  
**Odour** : Mild, soapy odour. **Odour threshold** : N/Av  
**pH** : 7.5 - 9.0

**DURO**

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<b>Boiling point</b>	: 84 - 86°C (183 - 187°F)	<b>Specific gravity</b>	: 1.015 - 1.027
<b>Melting/Freezing point</b>	: N/Av	<b>Coefficient of water/oil distribution</b>	: N/Av
<b>Vapour pressure (mmHg @ 20° C / 68° F)</b>	: N/Av	<b>Solubility in water</b>	: Complete
<b>Vapour density (Air = 1)</b>	: > 1	<b>Evaporation rate (n-Butyl acetate = 1)</b>	: > 1
<b>Volatile organic Compounds (VOC's)</b>	: N/Av	<b>Volatiles (% by weight)</b>	: 91%
<b>Flash point</b>	: 18 - 21°C (65 - 69°F)	<b>Auto-ignition temperature</b>	: N/Av
<b>Flash point Method</b>	: TCC	<b>Upper flammable limit (% by vol.)</b>	: 12.0 (Isopropanol )
<b>Lower flammable limit (% by vol.)</b>	: 2.5 (Isopropanol )	<b>Flashback observed</b>	: N/Av
<b>Flame Projection Length</b>	: N/Av		

**Section 10: Stability And Reactivity**

<b>Stability and reactivity</b>	: Stable under the recommended storage and handling conditions prescribed.
<b>Hazardous polymerization</b>	: Hazardous polymerisation does not occur.
<b>Conditions to avoid</b>	: Avoid heat and open flame.
<b>Materials To Avoid And Incompatibility</b>	: Oxidizing agents; Acids; Bases; Alkali metals.
<b>Hazardous decomposition products</b>	: None known, refer to hazardous combustion products in Section 4.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

<b>Target organs</b>	: Eyes, skin, respiratory system, central nervous system, liver and kidneys.
<b>Routes of exposure</b>	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : YES <i>Skin &amp; Eyes</i> : YES <i>Ingestion</i> : YES
<b>Toxicological data</b>	: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<b>Ingredients</b>	<b>LC<sub>50</sub>(4hr)</b>	<b>LD<sub>50</sub></b>	
	<b>inh, rat</b>	<b>(Oral, rat)</b>	<b>(Rabbit, dermal)</b>
Isopropanol	17,000 ppm	4720 mg/kg	12,890 mg/kg
Propylene glycol	N/Av	21,800 mg/kg	20,800 mg/kg
Alkyl dimethyl benzyl ammonium chloride	N/Av	N/Av	N/Av
Sodium nitrite	5.5 mg/m <sup>3</sup>	85 mg/kg	N/Av
Ethanol	> 32,380 ppm	7060 mg/kg	> 15,800 mg/kg
Formaldehyde	287 ppm	100 mg/kg (rat); 42 mg/kg (mouse)	300 mg/kg

<b>Carcinogenic status</b>	: Contains formaldehyde Formaldehyde is classified as carcinogenic by IARC (Group 1), ACGIH (Group A2) and NTP (Group 2).
<b>Reproductive effects</b>	: Not expected to have other reproductive effects.
<b>Teratogenicity</b>	: This product contains Isopropanol. Isopropanol is no longer considered a developmental toxin. Teratogenic / fetotoxic effects were observed in animals, however the effects were observed in the presence of maternal toxicity or at concentrations where maternal toxicity is expected to occur. Ethanol has been shown to cause developmental / teratogenic effects, but only in the presence of maternal toxicity.
<b>Mutagenicity</b>	: Contains: Ethanol. Ethanol has been shown to cause mutagenic effects but at extremely high oral doses, which are not applicable in an occupational setting.
<b>Epidemiology</b>	: Not available.
<b>Sensitization to material</b>	: Not expected to be a skin or respiratory sensitizer.
<b>Synergistic materials</b>	: N/Av
<b>Irritancy</b>	: Severe eye irritant. Mild to moderate skin irritant.
<b>other important hazards</b>	: None known or reported by the manufacturer.
<b>Conditions aggravated by overexposure</b>	: Pre-existing skin and respiratory disorders.





**SECTION 12 - ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	: There is no data available for this product. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
<b>Mobility</b>	: No data is available on the product itself.
<b>Persistence</b>	: No data is available on the product itself.
<b>Bioaccumulation potential</b>	: No data is available on the product itself.
<b>Other Adverse Environmental effects</b>	: No data is available on the product itself.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

<b>Handling for Disposal</b>	: Handle waste according to recommendations in Section 7.
<b>Methods of Disposal</b>	: Improper disposal can cause damage to the environment. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
<b>RCRA</b>	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

**SECTION 14: TRANSPORT INFORMATION**

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Isopropanol; sodium nitrite)	3(6.1)	II	 
<b>TDG Additional information</b>	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN1992	Flammable liquids, toxic, n.o.s. (Contains: Isopropanol; Sodium nitrite)	3	III	 
<b>49CFR/DOT Additional information</b>	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.150. US CERCLA Reportable quantity (RQ): Sodium nitrite (100 lbs / 45.4 kg); formaldehyde (100 lbs / 45.4 kg).				

**SECTION 15 - REGULATORY INFORMATION****US Federal Information:**

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

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): sodium nitrite (100 lbs / 45.4 kg); formaldehyde (100 lbs / 45.4 kg).

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: This product contains an Extremely Hazardous Substance under SARA Section 302. Contains: formaldehyde.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Acute Health Hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: formaldehyde; Isopropanol; sodium nitrite.

**US State Right to Know Laws:**

California Proposition 65: This product contains a chemical known to the State of California to cause cancer. Contains formaldehyde Note that this product does contain ethyl alcohol, which is known to the State of California to cause developmental harm; however, this is only applicable when the chemical is present in alcoholic beverages

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Isopropyl alcohol (CA, MA, MN, NJ, PA, RI); Propylene glycol (MN, NJ, PA, RI); Sodium nitrite (CA, MA, NJ, PA); Ethanol (CA, MA, MN, NJ, PA, RI); formaldehyde (CA, MA, MN, NJ, PA, RI).

**International Information:**

WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). Refer to Section 2 for a WHMIS Classification for this product.

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


**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.**

**SECTION 16 - OTHER INFORMATION**

**HMIS Rating** : \* - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe  
*Health: \*3 Flammability: 3 Reactivity: 0*

**Legend** : ACGIH: American Conference of Governmental Industrial Hygienists  
 CA: California  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 DOT: Department of Transportation  
 EPA: Environmental Protection Agency  
 HMIS: Hazardous Materials Identification System  
 HSDB: Hazardous Substances Data Bank  
 IARC: International Agency for Research on Cancer  
 Inh: Inhalation  
 MA: Massachusetts  
 MN: Minnesota  
 N/Ap: Not Applicable  
 N/Av: Not Available  
 NFPA: National Fire Protection Association  
 NJ: New Jersey  
 NIOSH: National Institute of Occupational Safety and Health  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PA: Pennsylvania  
 PEL: Permissible exposure limit  
 RCRA: Resource Conservation and Recovery Act  
 RI: Rhode Island  
 SARA: Superfund Amendments and Reauthorization Act  
 STEL: Short Term Exposure Limit  
 TCC: Tagliabue Closed Cup  
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
 TLV: Threshold Limit Values  
 TWA: Time Weighted Average  
 WHMIS: Workplace Hazardous Materials Identification System

**References** : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2009.  
 2. International Agency for Research on Cancer Monographs, searched 2009.  
 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2009 (Chempendium, HSDB and RTECs).  
 4. Material Safety Data Sheet from manufacturer.  
 5. US EPA Title III List of Lists - October 2006 version.  
 6. California Proposition 65 List - December 18, 2009 version.

<p><b>Prepared for:</b>  The Dodge Chemical Company (Canada) Ltd.  1265 Fewster Drive  Mississauga, ON, Canada  L4W 1A2  Telephone: (905) 625-0311  Please direct all enquiries to The Dodge Chemical Company (Canada).</p>	
<p><b>Prepared by:</b>  ICC The Compliance Center Inc.  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <p><b>The Compliance Center Inc.</b>  HAZARDOUS MATERIALS REGULATIONS SPECIALISTS</p>

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: 2

**Revision Information**

: Converted from 9 section format to 16 section format. All sections modified.

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