

# JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.  
Product code : 2416F-A

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Brake Parts Cleaner

#### 1.3. Details of the supplier of the safety data sheet

APPLIFAST  
251 Cree Crescent  
Winnipeg, MB R3J3X4 - Canada  
T 204-837-8361

#### 1.4. Emergency telephone number

No additional information available

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable aerosols, Category 1	H222 Extremely flammable aerosol.
Gases under pressure : Compressed gas	H280 Contains gas under pressure; may explode if heated.
Skin corrosion/irritation, Category 2	H315 Causes skin irritation.
Reproductive toxicity, Category 2	H361 Suspected of damaging fertility or the unborn child.
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336 May cause drowsiness or dizziness.
Specific target organ toxicity — Repeated exposure, Category 2	H373 May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H222 - Extremely flammable aerosol.  
H280 - Contains gas under pressure; may explode if heated.  
H315 - Causes skin irritation.  
H336 - May cause drowsiness or dizziness.  
H361 - Suspected of damaging fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS US) : P201 - Obtain special instructions  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P211 - Do not spray on an open flame or other ignition source.  
P251 - Do not pierce or burn, even after use.  
P260 - Do not breathe dust, fumes, gas, mist, vapor spray  
P261 - Avoid breathing dust, fume, gas, mist, vapor spray  
P264 - Wash affected areas thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection  
P302+P352 - If on skin: Wash with plenty of soap and water  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.  
P314 - Get medical advice/attention if you feel unwell.  
P321 - Specific treatment: See section 4.1 on SDS  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

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P405 - Store locked up.  
P410+P403 - Protect from sunlight. Store in a well-ventilated place.  
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.  
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

### 2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated. None under normal conditions.

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Hexane	(CAS-No.) 110-54-3	30 – 50	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Heptane, Branched Cyclic	(CAS-No.) 426260-76-6	43.075 – 44.87	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
n-Heptane	(CAS-No.) 142-82-5	11.218 – 20.192	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Carbon Dioxide, Liquefied, Under Pressure	(CAS-No.) 124-38-9	1 – 5	Press. Gas (Comp.), H280
2-Propanol	(CAS-No.) 67-63-0	1 – 5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Toluene	(CAS-No.) 108-88-3	0.449 – 1.795	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Cough. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Direct contact with the eyes is likely to be irritating. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs.

Symptoms/effects after inhalation : Shortness of breath. May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Itching. Red skin. Skin rash/inflammation. Causes skin irritation.

Symptoms/effects after eye contact : May cause slight eye irritation . Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Extremely flammable aerosol.  
Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. DO NOT fight fire when fire reaches explosives. Evacuate area.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.  
Other information : Aerosol level 3.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses.  
Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust, fume, gas, mist, vapor spray.  
Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

- Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Dam up the liquid spill. Contain released product, pump into suitable containers. Plug the leak, cut off the supply.  
Methods for cleaning up : Store away from other materials.

#### 6.4. Reference to other sections

- See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : Hazardous waste due to potential risk of explosion. Do not pierce or burn, even after use.  
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not spray on an open flame or other ignition source. Obtain special instructions. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Avoid breathing dust, fume, gas, mist, vapor spray. Use only outdoors or in a well-ventilated area.  
Hygiene measures : Wash affected areas thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Take off immediately all contaminated clothing and wash it before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.  
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place. Keep container tightly closed.  
Incompatible products : Strong bases. Strong acids.  
Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.  
Storage area : Store in a well-ventilated place.

#### 7.3. Specific end use(s)

- Follow Label Directions.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.</b>	
No additional information available	
<b>Toluene (108-88-3)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	75 mg/m <sup>3</sup>
ACGIH TWA (ppm)	20 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (ppm)	200 ppm
OSHA PEL C [ppm]	300 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA) (mg/m <sup>3</sup> )	375 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	100 ppm
NIOSH REL (ceiling) (mg/m <sup>3</sup> )	560 mg/m <sup>3</sup>
NIOSH REL C [ppm]	150 ppm
<b>n-Heptane (142-82-5)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (ppm)	400 ppm
ACGIH STEL (ppm)	500 ppm
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (ppm)	400 ppm
ACGIH STEL (ppm)	500 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (ppm)	500 ppm
<b>2-Propanol (67-63-0)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
ACGIH TWA (ppm)	400 ppm
ACGIH STEL (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
ACGIH STEL (ppm)	500 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
OSHA PEL (TWA) (ppm)	400 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	400 ppm
NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
NIOSH REL C [ppm]	500 ppm
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>
ACGIH TWA (ppm)	5000 ppm
ACGIH STEL (mg/m <sup>3</sup> )	54000
ACGIH STEL (ppm)	30000 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>
OSHA PEL (TWA) (ppm)	5000 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	5000 ppm
NIOSH REL (ceiling) (mg/m <sup>3</sup> )	54000 mg/m <sup>3</sup>
NIOSH REL C [ppm]	30000 ppm

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Hexane (110-54-3)	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
ACGIH TWA (ppm)	500 ppm
ACGIH STEL (mg/m <sup>3</sup> )	3600 mg/m <sup>3</sup>
ACGIH STEL (ppm)	1000 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
OSHA PEL (TWA) (ppm)	500 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA) (mg/m <sup>3</sup> )	180 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	50 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Local exhaust ventilation, vent hoods . Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Safety glasses. Avoid all unnecessary exposure.

#### Materials for protective clothing:

GIVE EXCELLENT RESISTANCE:

#### Hand protection:

Wear protective gloves

#### Eye protection:

Chemical goggles or safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. [In case of inadequate ventilation] wear respiratory protection.

#### Personal protective equipment symbol(s):



#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Liquid.
Colour	: Colourless.
Odour	: Mild odour. Solvent-like odour. Sweet.
Odour threshold	: No data available
pH	: 7 (0.01 g/l, 25 °C)
Relative evaporation rate (butylacetate=1)	: > 10
Relative evaporation rate (ether=1)	: 1.3
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 69 °C (Lowest Component)

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Flash point	: -22 °C (Lowest Component)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.82
Density	: 880 kg/m <sup>3</sup>
Solubility	: Poorly soluble in water. Ethanol: soluble Ether: soluble Acetone: soluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.1 – 7.5 vol %

### 9.2. Other information

VOC content	: ≥ 95 %
Gas group	: Compressed gas

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified as hazardous
Acute toxicity (dermal)	: Not classified as hazardous
Acute toxicity (inhalation)	: Not classified as hazardous

<b>Toluene (108-88-3)</b>	
LD50 oral rat	5580 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 5000 mg/kg bodyweight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 Inhalation - Rat	> 28.1 mg/l/4h (Rat; Air, Literature study)
ATE US (oral)	5580 mg/kg bodyweight
<b>n-Heptane (142-82-5)</b>	
LD50 oral rat	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))

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<b>n-Heptane (142-82-5)</b>	
LC50 Inhalation - Rat	> 29.29 mg/l/4h (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
LD50 oral rat	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 29.29 mg/l/4h (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
<b>2-Propanol (67-63-0)</b>	
LD50 oral rat	5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	16400 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat [ppm]	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	5840 mg/kg bodyweight
ATE US (dermal)	16400 mg/kg bodyweight
<b>Hexane (110-54-3)</b>	
LD50 oral rat	24 ml/kg by bodyweight
LD50 dermal rabbit	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 31.86 mg/l/4h air (nominal)
LC50 Inhalation - Rat [ppm]	73860 ppm/4h 259354 mg/m3
ATE US (oral)	24000 mg/kg bodyweight
ATE US (gases)	73860 ppmv/4h
Skin corrosion/irritation	: Causes skin irritation. pH: 7 (0.01 g/l, 25 °C)
Serious eye damage/irritation	: Not classified as hazardous pH: 7 (0.01 g/l, 25 °C)
Respiratory or skin sensitisation	: Not classified as hazardous
Germ cell mutagenicity	: Not classified as hazardous
Carcinogenicity	: Not classified as hazardous
<b>Toluene (108-88-3)</b>	
IARC group	3 - Not classifiable
<b>2-Propanol (67-63-0)</b>	
IARC group	3 - Not classifiable
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: May cause drowsiness or dizziness.
<b>Toluene (108-88-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>n-Heptane (142-82-5)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>2-Propanol (67-63-0)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>Hexane (110-54-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
<b>Toluene (108-88-3)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

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<b>Hexane (110-54-3)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified as hazardous
Viscosity, kinematic	: No data available
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs.
Symptoms/effects after inhalation	: Shortness of breath. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Itching. Red skin. Skin rash/inflammation. Causes skin irritation.
Symptoms/effects after eye contact	: May cause slight eye irritation . Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Toluene (108-88-3)</b>	
LC50 fish 1	5.5 mg/l (96 h, Oncorhynchus kisutch, Flow-through system, Fresh water, Experimental value)
<b>2-Propanol (67-63-0)</b>	
LC50 fish 1	9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
LC50 fish 1	35 mg/l (96 h, Salmo gairdneri, Literature study, Lethal)

### 12.2. Persistence and degradability

<b>JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.</b>	
Persistence and degradability	Not established.
<b>Toluene (108-88-3)</b>	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water. Not established.
Biochemical oxygen demand (BOD)	2.15 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.52 g O <sub>2</sub> /g substance
ThOD	3.13 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.69
<b>n-Heptane (142-82-5)</b>	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air. Not established.
Biochemical oxygen demand (BOD)	1.92 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.06 g O <sub>2</sub> /g substance
ThOD	3.52 g O <sub>2</sub> /g substance
BOD (% of ThOD)	> 0.5 (5 day(s), Literature study)
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>2-Propanol (67-63-0)</b>	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water. Not established.
Biochemical oxygen demand (BOD)	1.19 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.23 g O <sub>2</sub> /g substance
ThOD	2.4 g O <sub>2</sub> /g substance
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>Hexane (110-54-3)</b>	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	3.52 g O <sub>2</sub> /g substance



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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
<b>Toluene (108-88-3)</b>	
BCF fish 1	90 (72 h, Leuciscus idus, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	2.73 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.
<b>n-Heptane (142-82-5)</b>	
BCF other aquatic organisms 1	552 (BCFBFAF v3.00, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4.66 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation ( $4 \geq \text{Log Kow} \leq 5$ ). Not established.
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Bioaccumulative potential	Not established.
<b>2-Propanol (67-63-0)</b>	
Partition coefficient n-octanol/water (Log Pow)	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation ( $\text{Log Kow} < 4$ ). Not established.
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Partition coefficient n-octanol/water (Log Pow)	0.83 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation ( $\text{Log Kow} < 4$ ). Not established.
<b>Hexane (110-54-3)</b>	
BCF fish 1	501.187 (Other, Pimephales promelas, QSAR)
Partition coefficient n-octanol/water (Log Pow)	4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Bioaccumulative potential	Potential for bioaccumulation ( $500 \leq \text{BCF} \leq 5000$ ).

### 12.4. Mobility in soil

JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.	
<b>Toluene (108-88-3)</b>	
Surface tension	27.73 N/m (25 °C)
Ecology - soil	Low potential for adsorption in soil.
<b>n-Heptane (142-82-5)</b>	
Surface tension	19.66 mN/m (25 °C)
Partition coefficient n-octanol/water (Log Koc)	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.
<b>2-Propanol (67-63-0)</b>	
Surface tension	0.021 N/m (25 °C)
Partition coefficient n-octanol/water (Log Koc)	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Ecology - soil	Not applicable (gas).
<b>Hexane (110-54-3)</b>	
Surface tension	0.018 N/m (25 °C, 1 g/l)
Partition coefficient n-octanol/water (Log Koc)	3.34 (log Koc, QSAR)
Ecology - soil	Low potential for mobility in soil.

### 12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.
Additional information	: Flammable vapours may accumulate in the container.
Ecology - waste materials	: Avoid release to the environment. Hazardous waste due to toxicity.

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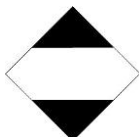
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1950 Aerosols (Flammable, (each not exceeding 1 L capacity)), 2.1, Limited Quantity  
UN-No.(DOT) : UN1950  
Proper Shipping Name (DOT) : Aerosols  
Flammable, (each not exceeding 1 L capacity)  
Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115  
Hazard labels (DOT) : LTD QTY - Limited quantity



DOT Packaging Non Bulk (49 CFR 173.xxx) : None  
DOT Packaging Bulk (49 CFR 173.xxx) : None  
DOT Special Provisions (49 CFR 172.102) : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 306  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg  
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.  
DOT Vessel Stowage Other : 48 - Stow "away from" sources of heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials  
Other information : No supplementary information available.

#### Transport by sea

Transport document description (IMDG) : UN 1950 , 2.1  
UN-No. (IMDG) : 1950  
Class (IMDG) : 2.1 - Flammable gases

#### Air transport

Transport document description (IATA) : UN 1950 Aerosols, LTD QTY, Limited Quantity  
UN-No. (IATA) : 1950  
Proper Shipping Name (IATA) : Aerosols  
Class (IATA) : 2.1 - Gases : Flammable  
Danger labels (IATA) : LTD QTY - Limited Quantity



### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard
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##### Toluene (108-88-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 lb
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<b>Toluene (108-88-3)</b>	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1 %
<b>n-Heptane (142-82-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
<b>2-Propanol (67-63-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard
SARA Section 313 - Emission Reporting	1 %
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard
<b>Hexane (110-54-3)</b>	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Delayed (chronic) health hazard

### 15.2. International regulations

#### CANADA

<b>JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.</b>	
WHMIS Classification	Class B Division 5 - Flammable Aerosol
<b>Toluene (108-88-3)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
<b>n-Heptane (142-82-5)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
<b>2-Propanol (67-63-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
<b>Hexane (110-54-3)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

#### EU-Regulations

<b>n-Heptane (142-82-5)</b>
<b>Heptane, Branched Cyclic (426260-76-6)</b>
<b>2-Propanol (67-63-0)</b>
<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>

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### Hexane (110-54-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances)  
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified as hazardous

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

#### 15.2.2. National regulations

### Toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

### n-Heptane (142-82-5)

### Heptane, Branched Cyclic (426260-76-6)

### 2-Propanol (67-63-0)

### Carbon Dioxide, Liquefied, Under Pressure (124-38-9)

### Hexane (110-54-3)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)

#### 15.3. US State regulations

### JOHNSEN'S CANADIAN HI-PERFORMANCE BRAKE CLEANER 14 OZ.(I)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - California - Proposition 65

### Toluene (108-88-3)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	Yes	

### n-Heptane (142-82-5)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

### Heptane, Branched Cyclic (426260-76-6)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

### 2-Propanol (67-63-0)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

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Carbon Dioxide, Liquefied, Under Pressure (124-38-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Hexane (110-54-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Toluene (108-88-3)				
State or local regulations				
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York City - Right to Know Hazardous Substances List U.S. - Pennsylvania - RTK (Right to Know) List				

n-Heptane (142-82-5)				
State or local regulations				
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York City - Right to Know Hazardous Substances List U.S. - Pennsylvania - RTK (Right to Know) List				

2-Propanol (67-63-0)				
State or local regulations				
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York City - Right to Know Hazardous Substances List U.S. - Pennsylvania - RTK (Right to Know) List				

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)				
State or local regulations				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York City - Right to Know Hazardous Substances List U.S. - Pennsylvania - RTK (Right to Know) List				

## SECTION 16: Other information

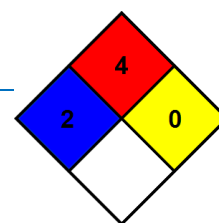
Other information : None.

Full text of H-statements:

H222	Extremely flammable aerosol.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

NFPA health hazard

: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.



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NFPA fire hazard	: 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.

### Hazard Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 4 Severe Hazard
Physical	: 1 Slight Hazard
Personal protection	: B

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*