

Safety Data Sheet

SECTION 1: Identification of	the substance/mixture and of the company/undertaking
1.1. Product identifier	
Product form	: Mixture
Trade name	: JOHNSEN'S NON-CHLORINATED BRAKE CLEANER 10 OZ.
Product code	: 2418
	of the substance or mixture and uses advised against Brake Parts Cleaner
Use of the substance/mixture	
1.3.Details of the supplier of the supplierTechnical Chemical CompanyP.O. BOX 139Cleburne, Texas 76033T 817-645-6088	the safety data sheet
1.4. Emergency telephone nur	mber
Emergency number	: CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)
SECTION 2: Hazards identifi	cation
2.1. Classification of the subs	tance or mixture
Classification (GHS-US)	
Flam. Aerosol 2 H223 Compressed gas H280 Acute Tox. 3 (Oral) H301 Acute Tox. 3 (Dermal) H311 Skin Irrit. 2 H315 Eye Irrit. 2A H319 Repr. 2 H361 STOT SE 1 H370 STOT RE 2 H373	
Full text of H-phrases: see section 16 2.2. Label elements GHS-US labeling Hazard pictograms (GHS-US)	
	GHS02 GHS04 GHS06 GHS07 GHS08
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	 H223 - Flammable aerosol H280 - Contains gas under pressure; may explode if heated H301+H311 - Toxic if swallowed or in contact with skin H315 - Causes skin irritation H319 - Causes serious eye irritation H336 - May cause drowsiness or dizziness H361 - Suspected of damaging fertility or the unborn child H370 - Causes damage to organs 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,sparks,open flames,hot surfaces No smoking P211 - Do not spray on an open flame or other ignition source P251 - Pressurized container: 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 P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective gloves,protective clothing,eye protection,face protection P301+P310 - If swallowed: Immediately call a poison control center, doctor,physician, P302+P352 - I fon skin: Wash with plenty of soap and water P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

EN (English US)

Safety Data Sheet

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

	5+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact
	es, if present and easy to do. Continue rinsing
P307	7+P311 - If exposed: Call a poison center/doctor
P308	3+P313 - If exposed or concerned: Get medical advice/attention
P312	2 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.
P314	4 - Get medical advice/attention if you feel unwell
P321	1 - Specific treatment: See section 4.1 on SDS
P330) - Rinse mouth
P332	2+P313 - If skin irritation occurs: Get medical advice/attention
P333	7+P313 - If eye irritation persists: Get medical advice/attention
P361	1 - Take off immediately all contaminated clothing
P362	2 - Take off contaminated clothing and wash before reuse
P363	3 - Wash contaminated clothing before reuse
P403	3+P233 - Store in a well-ventilated place. Keep container tightly closed
P405	5 - Store locked up
P410)+P403 - Protect from sunlight. Store in a well-ventilated place
P410	0+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P50'	1 - 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

: Contains gas under pressure; may explode if heated.

classification

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Acetone	(CAS No) 67-64-1	30 - 50	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Methanol	(CAS No) 67-56-1	10 - 30	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT SE 1, H370
Toluene	(CAS No) 108-88-3	10 - 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Heptane, Branched Cyclic	(CAS No) 426260-76-6	12.24 - 12.75	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Carbon Dioxide, Liquefied, Under Pressure	(CAS No) 124-38-9	5 - 10	Compressed gas, H280
n-Heptane	(CAS No) 142-82-5	3.1875 - 5.7375	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

The exact percentage is a trade secret.

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. Call a POISON CENTER or doctor/physician.
First-aid measures after inhalation	: Cough. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Immediately call a poison center or doctor/physician. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Immediately call a poison center or doctor/physician. Obtain medical attention if pain, blinking or redness persist. Direct contact with the eyes is likely to be irritating.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.
19/05/2015	EN (English US) 2/1

Safety Data Sheet

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

4.2. Most important symptoms and e	ffects, both acute and delayed
Symptoms/injuries	: Suspected of damaging fertility or the unborn child. Causes damage to organs.
Symptoms/injuries after inhalation	: Shortness of breath. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measure	es
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	e substance or mixture
Fire hazard	: 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 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 2.
SECTION 6: Accidental release m)easures
	e 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. N	Notify authorities if liquid enters sewers or public waters.
6.3. Methods and material for contai	nment and cleaning up
For containment	 Dam up the liquid spill. Plug the leak, cut off the supply. Contain released substance, pump into suitable containers.
Methods for cleaning up	: Store away from other materials.
6.4. Reference to other sections	
See Heading 8. Exposure controls and perso	onal protection.
SECTION 7: Handling and storag	•
7.1. Precautions for safe handling	
Additional hazards when processed	: Hazardous waste due to potential risk of explosion. Pressurized container: 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 vapor. 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. Avoid breathing dust,fume,gas,mist,vapor spray. Use only outdoors or in a well-ventilated area. Do not breathe

19/05/2015

dust,fumes,gas,mist,vapor spray.

thoroughly after handling.

Wash contaminated clothing before reuse. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Wash affected areas

Safety Data Sheet

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

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.
7.2 Encoific and uco(c)	

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzene (71-43-2)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA ACGIH	ACGIH Ceiling (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	75 mg/m³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm
n-Heptane (142-82-5)	· ·	
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
Heptane, Branched Cyc	lic (426260-76-6)	
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm
Carbon Dioxide, Liquefi	ied, Under Pressure (124-38-9)	
USA ACGIH	ACGIH TWA (mg/m ³)	9000 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (mg/m ³)	54000
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	9000 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm
Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	262 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (mg/m ³)	328 mg/m ³
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
Acetone (67-64-1)	•	
USA ACGIH	ACGIH TWA (mg/m ³)	1188 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	500 ppm
USA ACGIH	ACGIH STEL (mg/m ³)	1782 mg/m³
USA ACGIH	ACGIH STEL (ppm)	750 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	2400 mg/m ³

Acetone (67-64-1)			
USA OSHA	OSHA PEL (TWA)	(ppm)	1000 ppm
8.2. Exposure controls	, ,		
Appropriate engineering controls	3 :	Local exhaust venilation, vent hoods .	Ensure good ventilation of the work station.
Personal protective equipment		Gloves. Safety glasses. Avoid all unn	
Hand protection		Wear protective gloves.	
Eye protection		Chemical goggles or safety glasses.	
Skin and body protection		Wear suitable protective clothing.	
Respiratory protection			ay occur from use, respiratory protection equipment is
		recommended.	
Other information	:	Do not eat, drink or smoke during use).
SECTION 9: Physical an	d chemical pro	perties	
9.1. Information on basic			
Physical state		Gas	
Appearance		Liquid.	
Color		Colourless to light yellow.	
Odor		Characteristic. Solvent-like odour.	
Odor threshold		No data available	
рН		No data available	
Relative evaporation rate (butyl a		No data available	
Melting point	,	No data available	
Freezing point		< -78 °C (Lowest Component-Acetone	a)
Boiling point		56.1 °C (Lowest Component-Acetone	
Flash point		-18 °C (Lowest Component-Acetone)	
Auto-ignition temperature		385 °C (Lowest Component-Acetone)	
Decomposition temperature		No data available	
Flammability (solid, gas)		No data available	
Vapor pressure		No data available	
Relative vapor density at 20 °C		No data available	
Relative density		0.82	
Solubility		Poorly soluble in water.	
Log Pow		No data available	
Log Kow		No data available	
Viscosity, kinematic		No data available	
Viscosity, kinematic		No data available	
Explosive properties		Heating may cause a fire or explosion	ι.
Oxidizing properties Explosion limits		No data available No data available	
•	•		
9.2. Other information		AE 0/	
VOC content	:	45 %	
SECTION 10: Stability an	nd reactivity		
10.1. Reactivity			
No additional information availab	ble		
10.2. Chemical stability			
	as under pressure; m	nay explode if heated. Extreme risk of	explosion by shock, friction, fire or other sources of
10.3. Possibility of hazard	ous reactions		
Not established.			
10.4. Conditions to avoid			
Direct sunlight. Extremely high o	or low temperatures.	Heat. Sparks. Open flame. Overheating	ng.
19/05/2015	F	N (English US)	5/1
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Incompatible materials Strong acids. Strong bases.	
0.6. Hazardous decomposition products	
oxic fume Carbon monoxide. Carbon dioxide.	
SECTION 11: Toxicological information	07
1.1. Information on toxicological effects	
Acute toxicity	: Oral: Toxic if swallowed. Dermal: Toxic in contact with skin.
Benzene (71-43-2)	
LD50 oral rat	> 930 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; > 2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 8240 mg/kg (Rabbit; Experimental value; 21 CFR 191.10; > 9.4; Rabbit)
LC50 inhalation rat (mg/l)	43.767 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm)	13700 ppm/4h (Rat; Experimental value)
Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)
n-Heptane (142-82-5)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)
Heptane, Branched Cyclic (426260-76-6)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)
Methanol (67-56-1)	
LD50 oral rat	>= 2528 mg/kg body weight application as 50% aqueous solution
LD50 dermal rabbit	17100 mg/kg corresponding to 20 ml/kg bw according to the authors
LC50 inhalation rat (mg/l)	128.2 mg/l/4h Air
Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rabbit	20000 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	71 mg/l/4h (Rat; Experimental value; 76 mg/l/4h; Rat; Experimental value)
LC50 inhalation rat (ppm)	30000 ppm/4h (Rat; Experimental value)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Benzene (71-43-2)	
IARC group	1
Toluene (108-88-3)	
IARC group	3
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Causes damage to organs. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.

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

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Toxic if swallowed. Toxic in contact with skin.
Symptoms/injuries after inhalation	: Shortness of breath. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion	 Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

Toxicity 12.1.

Benzene (71-43-2)	
LC50 fish 1	5.3 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	18 mg/l (24 h; Daphnia magna)
LC50 fish 2	15.1 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	10 mg/l (48 h; Daphnia magna)
TLM fish 1	22.5 mg/l (96 h; Lepomis macrochirus; Soft water)
TLM fish 2	32 mg/l (96 h; Pimephales promelas; Hard water)
Threshold limit algae 1	100 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)
Threshold limit algae 2	50 mg/l (24 h; Phaeodactylum; Photosynthesis)
Toluene (108-88-3)	<u>.</u>
LC50 fish 1	24 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/l (24 h; Daphnia magna; Locomotor effect)
LC50 fish 2	13 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 400 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)
n-Heptane (142-82-5)	
LC50 fish 1	375 mg/l (96 h; Tilapia mosambica; Nominal concentration)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)
EC50 Daphnia 1	1.5 mg/l (48 h; Daphnia magna)
LC50 fish 2	> 100 mg/l (96 h; Oncorhynchus kisutch)
TLM fish 1	4924 mg/l (48 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	> 1000 mg/l (96 h)
Threshold limit algae 1	> 200 mg/l (Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	1.5 mg/l (8 h; Algae; Photosynthesis)
Carbon Dioxide, Liquefied, Under Pressure (1	24-38-9)
LC50 fish 1	35 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Lethal)
LC50 fish 2	60 - 240 mg/l (12 h; Salmo gairdneri (Oncorhynchus mykiss); Lethal)
Acetone (67-64-1)	
TLM fish 1	13000 ppm (96 h; Gambusia affinis; Turbulent water)
TLM fish 2	> 1000 ppm (96 h; Pisces)
Threshold limit other aquatic organisms 1	3000 mg/l (Plankton)
Threshold limit other aquatic organisms 2	28 mg/l (Protozoa)
Threshold limit algae 1	7500 mg/l (Scenedesmus quadricauda; pH = 7)
Threshold limit algae 2	3400 mg/l (48 h; Chlorella sp.)
Methanol (67-56-1)	
LC50 fish 1	15400 mg/l (96 h; Lepomis macrochirus; Lethal)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna; Lethal)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna; Locomotor effect)
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
-	8000 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	
Threshold limit algae 2 Acetone (67-64-1)	
	6210 mg/l (96 h; Pimephales promelas; Nominal concentration)
Acetone (67-64-1)	
Acetone (67-64-1) LC50 fish 1	6210 mg/l (96 h; Pimephales promelas; Nominal concentration)

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Acetone (67-64-1)	
TLM fish 1	13000 ppm (96 h; Gambusia affinis; Turbulent water)
TLM fish 2	> 1000 ppm (96 h; Pisces)
Threshold limit other aquatic organisms 1	3000 mg/l (Plankton)
Threshold limit other aquatic organisms 2	28 mg/l (Protozoa)
Threshold limit algae 1	7500 mg/l (Scenedesmus quadricauda; pH = 7)
Threshold limit algae 2	3400 mg/l (48 h; Chlorella sp.)
2.2. Persistence and degradability	
JOHNSEN'S NON-CHLORINATED BRAKE	CLEANER 10 OZ.
Persistence and degradability	Not established.
Benzene (71-43-2)	
Persistence and degradability	Readily biodegradable in water. Ozonation in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.18 g O ₂ /g substance
Chemical oxygen demand (COD)	2.15 g O ₂ /g substance
ThOD	3.10 g O ₂ /g substance
BOD (% of ThOD)	0.70 % ThOD
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soi
Biochemical oxygen demand (BOD)	2.15 g O ₂ /g substance
Chemical oxygen demand (COD)	2.52 g O ₂ /g substance
ThOD	3.13 g O ₂ /g substance
BOD (% of ThOD)	0.69 % ThOD
n-Heptane (142-82-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	1.92 g O ₂ /g substance
Chemical oxygen demand (COD)	0.06 g O ₂ /g substance
ThOD	3.52 g O ₂ /g substance
BOD (% of ThOD)	> % ThOD (5 day(s)) > 0.5
Heptane, Branched Cyclic (426260-76-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.
Carbon Dioxide, Liquefied, Under Pressur	e (124-38-9)
Persistence and degradability	Biodegradability: not applicable. Not applicable (gas).
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Acetone (67-64-1)	
Persistence and degradability	Not established.
Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
BOD (% of ThOD)	0.8 % ThOD
Acetone (67-64-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available. Not established.
Biochemical oxygen demand (BOD)	1.43 g O ₂ /g substance
Chemical oxygen demand (COD)	1.92 g O ₂ /g substance
ThOD	2.20 g O ₂ /g substance
BOD (% of ThOD)	(20 day(s)) 0.872
2.3. Bioaccumulative potential	
JOHNSEN'S NON-CHLORINATED BRAKE	CLEANER 10 OZ.
Bioaccumulative potential	Not established.
Benzene (71-43-2)	
Benzene (71-43-2) BCF fish 1	19 Salmo gairdneri (Oncorhynchus mykiss)
Benzene (71-43-2) BCF fish 1 BCF fish 2	19 Salmo gairdneri (Oncorhynchus mykiss) < 10 (3 days; Leuciscus idus)

Safety Data Sheet

33 , ,, ,, ,	
Benzene (71-43-2)	
BCF other aquatic organisms 1	30 (24 h; Chlorella sp.; Fresh weight)
Log Pow	2.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Toluene (108-88-3)	
BCF fish 1	13.2 (Anguilla japonica)
BCF fish 2	90 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	380 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	4.2 (Mytilus edulis; Fresh weight)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
n-Heptane (142-82-5)	
BCF other aquatic organisms 1	552
Log Pow	4.66 (Experimental value; 4.5; Literature)
Bioaccumulative potential	Potential for bioaccumulation ($4 \ge Log \text{ Kow} \le 5$).
Heptane, Branched Cyclic (426260-76-6)	
Bioaccumulative potential	Not established.
Carbon Dioxide, Liquefied, Under Pressu	ure (124-38-9)
Log Pow	0.83 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.
· ·	
Acetone (67-64-1) Bioaccumulative potential	Not established.
· ·	
Methanol (67-56-1)	
BCF fish 1	< 10 (72 h; Leuciscus idus)
BCF fish 2	1 (72 h; Cyprinus carpio; Blood)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Acetone (67-64-1)	
BCF fish 1	0.69 (Pisces)
BCF other aquatic organisms 1	3
Log Pow	-0.24 (Test data)
Bioaccumulative potential	Not bioaccumulative. Not established.
12.4. Mobility in soil	
Benzene (71-43-2)	
Surface tension	0.029 N/m (20 °C)
Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)
n-Heptane (142-82-5)	
Surface tension	0.020 N/m (20 °C)
Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Acetone (67-64-1)	
Surface tension	0.0237 N/m (20 °C)
12.5 Other advarce effects	
12.5. Other adverse effects	· Avoid release to the environment
Other information	: Avoid release to the environment.
SECTION 13: Disposal considerat	ions
13.1. Waste treatment methods	
Waste 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 vapors may accumulate in the container.
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Safety Data Sheet

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

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN			
US DOT (ground):	UN1950, Aerosols, 2.1, Limited Quantity		
ICAO/IATA (air):	UN1950, Aerosols, 2.1, Limited Quantity		
IMO/IMDG (water):	UN1950, Aerosols, 2.1 (Marine Pollutant-Heptane), Limited Quantity		
Special Provisions:	N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.		

14.2. UN proper shipping name		
Proper Shipping Name (DOT)	: Aerosols	
	flammable, (each not exceeding 1 L capacity)	
Transport hazard class(es) (DOT)	: 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115	
Hazard labels (DOT)	: 2.1 - Flammable gas	
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 Packaging Non Bulk (49 CFR 173.xxx)	: None	
DOT Packaging Bulk (49 CFR 173.xxx)	: None	
14.3. Additional information		
Other information	: No supplementary information available.	
Overland transport		
Overland transport		
No additional information available		
Transport by sea		
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	
Subsidiary risks (IMDG)	: Marine Pollutant-Heptane	
Air transport		
DOT Quantity Limitations Passenger aircraft/rail	· 75 kg	
(49 CFR 173.27)	. 75 kg	
DOT Quantity Limitations Cargo aircraft only (49	: 150 kg	
CFR 175.75)		
SECTION 15: Regulatory information		
15.1. US Federal regulations		
JOHNSEN'S NON-CHLORINATED BRAKE CL		
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard	
OARA Occilon 311/312 Hazard Olasses	Fire hazard	
	Immediate (acute) health hazard	
	Sudden release of pressure hazard	
Benzene (71-43-2)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313		
Toluene (108-88-3)		
Listed on United States SARA Section 313		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Listed on the United States SARA Section 302	Delever d (share's) has ble benered	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard	
	Immediate (acute) health hazard	
Heptane, Branched Cyclic (426260-76-6)		
Listed on the United States TSCA (Taxis Substances Control Act) inventory		

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Safety Data Sheet

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

Heptane, Branched Cyclic (426260-76-6)		
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard	
Carbon Dioxide, Liquefied, Under Pressure (12	24-38-9)	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard	
Methanol (67-56-1)		
Listed on United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on the United States SARA Section 355		
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard	
Acetone (67-64-1)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on 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

JOHNSEN'S NON-CHLORINATED BRAKE CLEANER 10 OZ.				
WHMIS Classification Class B Division 5 - Flammable Aerosol				
Benzene (71-43-2)				
Listed on the Canadian DSL (Domestic Sustance	s List)			
Toluene (108-88-3)				
Listed on the Canadian DSL (Domestic Sustance	s 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			
Heptane, Branched Cyclic (426260-76-6)				
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects			
Methanol (67-56-1)				
Listed on the Canadian DSL (Domestic Sustances List)				
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects 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			
Acetone (67-64-1)				
Listed on the Canadian DSL (Domestic Sustances List)				
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects			

EU-Regulations

Toluene (108-88-3)		
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)		
Heptane, Branched Cyclic (426260-76-6)		
Methanol (67-56-1)		
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)		
Acetone (67-64-1)		
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]

Safety Data Sheet

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

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

Repr.Cat.3; R63

F; R11 T; R39/23/24/25 Xn; R20/21/22 Xn; R48/20 Xi; R36/38

Full text of R-phrases: see section 16

15.2.2. National regulations

Benzene (71-43-2)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on NZIOC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Toluene (108-88-3)

Heptane, Branched Cyclic (426260-76-6)

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA under 40 CFR 720.30.

Methanol (67-56-1)

Listed on the Canadian IDL (Ingredient Disclosure List)

Acetone (67-64-1)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

15.3. US State regulations				
JOHNSEN'S NON-CHLC	RINATED BRAKE CLEANER	10 OZ.		
U.S California - Proposition 65 - Carcinogens List		No		
U.S California - Proposition 65 - Developmental Toxicity		No		
U.S California - Propos Toxicity - Female	ition 65 - Reproductive	No		
U.S California - Proposition 65 - Reproductive Toxicity - Male		No		
State or local regulations		U.S California - Proposition	65 - Maximum Allowable Dose	Levels (MADL)
Benzene (71-43-2)				
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 significance risk level (NSRL)
Yes	Yes	No	Yes	
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 significance risk level (NSRL)
No	Yes	Yes	No	
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 significance risk level (NSRL)
No	No	No	No	
Heptane, Branched Cyc	lic (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 significance risk level (NSRL)

Heptane, Branched Cyclic	(426260-76-6)			
No	No	No	No	
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 significance risk level (NSRL)
No	No	No	No	
Acetone (67-64-1)				
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 significance risk level (NSRL)
No	No	No	No	
Methanol (67-56-1)		_		-
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 significance risk level (NSRL)
No	Yes	No	No	
Acetone (67-64-1)				
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 significance risk level (NSRL)
Yes	No	No	No	
State or local regulations U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL) U.S Pennsylvania - RTK (Right to Know) List New Jersey Right-to-Know Toluene (108-88-3) State or local regulations U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL) U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL) U.S New Jersey - Special Health Hazards Substances List New Jersey Right-to-Know U.S Massachusetts - Right To Know List Rhode Island Right to Know U.S New Jersey - Environmental Hazardous Substances List U.S New Jersey - Environmental Hazardous Substances List U.S New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S Nemy York - Reporting of Releases Part 597 - List of Hazardous Substances U.S Nemy York - Reporting of Releases Part 597 - List of Hazardous Substances U.S Nemy York - Reporting of Releases Part 597 - List of Hazardous Substances U.S Nemy York - Reporting of Releases Part 597 - List of Hazardous Substances U.S Pennsylvania - RTK (Right to Know) - Environmental Hazard List				
Methanol (67-56-1) State or local regulations				
U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL) New Jersey Right-to-Know Florida Right to Know U.S Massachusetts - Right To Know List U.S Pennsylvania - RTK (Right to Know) List				
Acetone (67-64-1) State or local regulations				
U.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL) Benzene 71-43-2 U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List				
SECTION 16: Other information Other information : None.				

Safety Data Sheet

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

t of H-phrases:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Catego
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Catego
Asp. Tox. 1	Aspiration hazard Category 1
Compressed gas	Gases under pressure Compressed gas
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Aerosol 2	Flammable aerosol Category 2
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H223	Flammable aerosol
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H370	Causes damage to organs
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 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard	: 3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
HMIS III Rating	
Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 3 Serious Hazard
Physical	: 1 Slight Hazard

SDS US (GHS HazCom 2012) - TCC

Personal Protection

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

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