



# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

Revision date: 08/04/2014

Version:

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : JOHNSEN'S 20% STARTING FLUID 10.7 OZ.  
Product code : 6762

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

Use of the substance/mixture : Starting Fluid

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

Technical Chemical Company  
P.O. BOX 139  
Cleburne, Texas 76033  
T 817-645-6088

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

### SECTION 2: Hazards identification

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

##### Classification (GHS-US)

Flam. Aerosol 1 H222  
Compressed gas H280  
Skin Irrit. 2 H315  
Muta. 1B H340  
Carc. 1A H350  
Repr. 2 H361  
STOT SE 3 H336  
STOT RE 2 H373

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

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  
H340 - May cause genetic defects  
H350 - May cause cancer  
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, 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  
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 - Take off contaminated clothing and wash before reuse  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

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.

### 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)
Heptane, Branched Cyclic	(CAS No) 426260-76-6	32.408 - 47.3	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Petroleum Gases, Liquefied, Sweetened	(CAS No) 68476-86-8	10 - 30	Flam. Gas 1, H220 Flam. Liq. 1, H224
Heptane	(CAS No) 142-82-5	10.025 - 21.285	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Diethyl Ether	(CAS No) 60-29-7	10 - 30	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302
Carbon Dioxide, Liquefied, Under Pressure	(CAS No) 124-38-9	5 - 10	Compressed gas, H280
Toluene	(CAS No) 108-88-3	0.473 - 1.892	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Distillates (Petroleum), Hydrotreated Heavy Naphthenic	(CAS No) 64742-52-5	< 1	Not classified

## 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 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 : 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 : Direct contact with the eyes is likely to be irritating. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

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

Symptoms/injuries after inhalation : Shortness of breath. May cause cancer by inhalation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation. Itching. Red skin.

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

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

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

No additional information available

## 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.

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

### 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 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 : Ventilate area. 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 substance, 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. 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. 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. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 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.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Diethyl Ether (60-29-7)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1200
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	1500 mg/m <sup>3</sup>

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

<b>Diethyl Ether (60-29-7)</b>		
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

<b>Toluene (108-88-3)</b>		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	75 mg/m <sup>3</sup>
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

<b>Heptane (142-82-5)</b>		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm

<b>Heptane, Branched Cyclic (426260-76-6)</b>		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm

<b>Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)</b>		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> MIST 8 HOURS
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> MIST 8 HOURS

<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>
USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	54000
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

<b>Petroleum Gases, Liquefied, Sweetened (68476-86-8)</b>		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm Listed under Aliphatic hydrocarbon gases alkane C1-C4
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

### 8.2. Exposure controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation.

Personal protective equipment

: Gloves. Protective goggles. Avoid all unnecessary exposure.



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.

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

Color

: Colourless to light yellow.

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

Odor	: Ether-like odour. Sweet. Pungent.
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: -42 °C (Lowest Component)
Flash point	: < -23 °C (Lowest Component)
Auto-ignition temperature	: 180 °C
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	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

VOC content : 93.3 %

## 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 : Not classified

Diethyl Ether (60-29-7)	
LD50 oral rat	1215 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1600 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 14200 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	99 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	32000 ppm/4h (Rat)
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)

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

<b>Heptane (142-82-5)</b>	
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)

<b>Heptane, Branched Cyclic (426260-76-6)</b>	
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)

<b>Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)</b>	
LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.

<b>Toluene (108-88-3)</b>	
IARC group	3

<b>Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)</b>	
IARC group	3

Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: Shortness of breath. May cause cancer by inhalation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation. Itching. Red skin.
Symptoms/injuries after eye contact	: May cause severe irritation. May cause slight eye irritation . Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	: May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Diethyl Ether (60-29-7)</b>	
LC50 fish 1	> 10000 ppm (96 h; Lepomis macrochirus)
EC50 Daphnia 1	165 mg/l (24 h; Daphnia magna)
LC50 fish 2	2560 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	1380 mg/l (48 h; Daphnia magna)
TLM fish 1	> 1000 mg/l (96 h; Pisces)
TLM other aquatic organisms 1	> 1000 mg/l (96 h)

<b>Toluene (108-88-3)</b>	
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)

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

<b>Heptane (142-82-5)</b>	
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)

<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
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)

### 12.2. Persistence and degradability

<b>JOHNSEN'S 20% STARTING FLUID 10.7 OZ.</b>	
Persistence and degradability	Not established.

<b>Diethyl Ether (60-29-7)</b>	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available. Reacts with air.
Biochemical oxygen demand (BOD)	0.03 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.026 g O <sub>2</sub> /g substance (KMnO <sub>4</sub> )
ThOD	2.60 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.012 % ThOD

<b>Toluene (108-88-3)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
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 % ThOD

<b>Heptane (142-82-5)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil.
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)	> % ThOD (5 day(s)) > 0.5

<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
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

<b>Petroleum Gases, Liquefied, Sweetened (68476-86-8)</b>	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

<b>JOHNSEN'S 20% STARTING FLUID 10.7 OZ.</b>	
Bioaccumulative potential	Not established.

<b>Diethyl Ether (60-29-7)</b>	
BCF fish 1	0.9 - 9.1 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	0.82 - 0.89 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

<b>Toluene (108-88-3)</b>	
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)



# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

<b>Toluene (108-88-3)</b>	
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).

<b>Heptane (142-82-5)</b>	
BCF other aquatic organisms 1	552
Log Pow	4.66 (Experimental value; 4.5; Literature)
Bioaccumulative potential	Potential for bioaccumulation ( $4 \geq \text{Log Kow} \leq 5$ ).

<b>Heptane, Branched Cyclic (426260-76-6)</b>	
Bioaccumulative potential	Not established.

<b>Carbon Dioxide, Liquefied, Under Pressure (124-38-9)</b>	
Log Pow	0.83 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.

<b>Petroleum Gases, Liquefied, Sweetened (68476-86-8)</b>	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

<b>Diethyl Ether (60-29-7)</b>	
Surface tension	0.017 N/m (20 °C)

<b>Toluene (108-88-3)</b>	
Surface tension	0.03 N/m (20 °C)

<b>Heptane (142-82-5)</b>	
Surface tension	0.020 N/m (20 °C)

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 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.

Ecology - waste materials : Avoid release to the environment.

## 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, n.o.s. (engine starting fluid) (each not exceeding 1 L capacity)

Department of Transportation (DOT) Hazard Classes : 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) : 304

DOT Packaging Bulk (49 CFR 173.xxx) : None



# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

### 14.3. Additional information

Other information : No supplementary information available.

#### 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 : Forbidden  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg  
CFR 175.75)

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

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

#### Diethyl Ether (60-29-7)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard
-------------------------------------	--

#### Toluene (108-88-3)

Listed on United States SARA Section 313  
Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
-------------------------------------	---

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

Not 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
-------------------------------------	---

#### Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
-------------------------------------	---------------------------------

#### Petroleum Gases, Liquefied, Sweetened (68476-86-8)

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard
-------------------------------------	---

### 15.2. International regulations

#### CANADA

#### JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

WHMIS Classification	Class B Division 5 - Flammable Aerosol
----------------------	--

#### Toluene (108-88-3)

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very 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
----------------------	--

#### EU-Regulations

#### Toluene (108-88-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

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

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

Carc.Cat.1; R45

Muta.Cat.2; R46

Repr.Cat.3; R63

F+; R12

Xn; R22

Xi; R38

R19

Full text of R-phrases: see section 16

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

#### JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

State or local regulations	U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
----------------------------	---

#### Toluene (108-88-3)

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

## SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

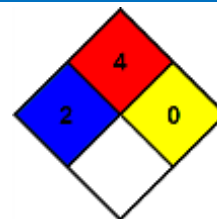
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Compressed gas	Gases under pressure Compressed gas
Flam. Aerosol 1	Flammable aerosol Category 1
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Muta. 1B	Germ cell mutagenicity Category 1B
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 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
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

# JOHNSEN'S 20% STARTING FLUID 10.7 OZ.

## Safety Data Sheet

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

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	: 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
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	: 4 Severe Hazard
Physical	: 1 Slight Hazard
Personal Protection	: B

SDS US (GHS HazCom 2012) - TCC

*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.*