1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: NO FIRE WG 200R
SYNONYMS: Fire-Resistant Water Glycol Hydraulic Fluid
PRODUCT USE: Water-based lubricant
PRODUCT CODE: 407-670

SUPPLIER
Shell Canada Limited (SCL)
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS
Shell Emergency Number 1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER 1-613-996-6666
For general information: 1-800-661-1600
www.shell.ca

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.
*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION / INFORMATION ON INGREDIENTS

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.
See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Clear Red Colour Ammonia Odour
Routes of Exposure: Exposure may occur via skin or eye contact and through ingestion. Inhalation is only possible if the product is heated or mists are generated.

Hazards:
Exposure to high concentrations may cause nausea and vomiting. Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
If ingested, product may irritate the gastrointestinal tract and cause central nervous system depression (eg. nausea, lightheadedness).

For further information on health effects, see Section 11.

4. FIRST AID MEASURES

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.
Skin: Wipe excess from skin. Wash contaminated skin with mild soap and water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.
Ingestion: Not normally required; obtain medical attention if large amounts have been ingested. Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent
aspiration of liquid into the lungs.

**Inhalation:** Remove victim from further exposure and restore breathing, if required. Additional first
aid treatment is not ordinarily required.

**Notes to Physician:** The currently recommended medical management of diethylene glycol poisoning
includes elimination of diethylene glycol and its metabolites, correction of metabolic
acidosis and prevention of kidney injury. Hemodialysis or peritoneal dialysis may be of
benefit.

### 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Extinguishing Media:</th>
<th>Carbon Dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Foam</td>
</tr>
<tr>
<td></td>
<td>Dry Chemical</td>
</tr>
<tr>
<td></td>
<td>Water Fog</td>
</tr>
</tbody>
</table>

**Firefighting Instructions:** This product is considered to be non-combustible because of its high water
content. This product will burn after the water has gone. Use water to cool fire
exposed containers. Water or foam may cause frothing. Do not use a direct
stream of water as it may spread fire. Do not enter confined fire space without
adequate protective clothing and an approved positive pressure self-contained
breathing apparatus.

**Hazardous Combustion Products:** CO, CO2 and oxides of nitrogen produced upon combustion.

### 6. ACCIDENTAL RELEASE MEASURES

Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective
clothing. Stop leak only if safe to do so. Spilled material is slippery. Contain a land spill by diking. For large
spills remove by mechanical means and place in containers. Adsorb residue or small spills with absorbent
material and remove to non-leaking containers for disposal. Flush area with water to remove trace residue.
Dispose of recovered material as noted under Disposal Considerations.

### 7. HANDLING AND STORAGE

**Handling:** Avoid breathing vapours and prolonged or repeated contact with skin. Avoid ingestion. Launder
contaminated clothing prior to reuse. Use good personal hygiene.

**Storage:** Store in a cool, dry, well ventilated area away from incompatible materials. Keep container
tightly closed. Water content of this product must be monitored and maintained in order to remain
non-flammable.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following information, while appropriate for this product, is general in nature. The selection of personal
protective equipment will vary depending on the conditions of use.

**OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):**

Supplier recommends an OEL (TWA) of 50 ppm (vapour) and 10 mg/m³ (aerosol).

**Mechanical Ventilation:** Not normally required. Local ventilation is recommended if mist or vapours are a problem.

**Make up air should always be supplied to balance air exhausted (either generally or locally).**
Eye Protection: No special eye protection is routinely necessary. Wear safety glasses as appropriate.

Skin Protection: Not normally needed. Chemically-resistant gloves should be worn for frequent or prolonged contact with this product.

Respiratory Protection: Not normally required under intended conditions of use. If airborne levels exceed workplace exposure limits or irritation of eyes or respiratory tract occurs, use a NIOSH-approved chemical cartridge respirator with a full facepiece and organic vapour cartridge in combination with a dust/mist/fume prefilter or use a NIOSH-approved supplied-air respirator.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear Red Colour</td>
</tr>
<tr>
<td>Pour Point</td>
<td>&lt; -50 °C</td>
</tr>
<tr>
<td>Vapour Pressure (absolute)</td>
<td>6.4 mm Hg @ 20 °C</td>
</tr>
<tr>
<td>Density</td>
<td>1080 kg/m³</td>
</tr>
<tr>
<td>Specific Gravity (Water = 1)</td>
<td>1.08</td>
</tr>
<tr>
<td>pH</td>
<td>9 - 10</td>
</tr>
<tr>
<td>Viscosity</td>
<td>39 - 46 cSt @ 40 °C</td>
</tr>
<tr>
<td>Evaporation Rate (n-BuAc = 1)</td>
<td>0.64</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Complete</td>
</tr>
<tr>
<td>Odour</td>
<td>Ammonia Odour</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>Boiling Point</td>
<td>129 °C</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
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</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Partition Coefficient (log K\text{OW})</td>
<td>Not available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

Chemically Stable: Yes

Hazardous Polymerization: No

Sensitive to Mechanical Impact: No

Sensitive to Static Discharge: No

Incompatible Materials: Avoid contact with strong oxidizing agents and acids.

Strong mineral bases.

Avoid contact with nitrites.

Conditions of Reactivity: None currently known.

### 11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Exposure may occur via skin or eye contact and through ingestion. Inhalation is only possible if the product is heated or mists are generated.

Irritancy: This product is not a primary skin irritant after exposure of short duration nor is it irritating to the eye.

Acute Toxicity: Exposure to high concentrations may cause nausea and vomiting. Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Chronic Effects: Exposure to this product can adversely affect the: Kidney

Feto/Teratogenicity: Mice exposed continually to high concentrations of Diethylene glycol in the drinking water showed some reproductive impairment only at doses causing decreased maternal weights. There was also some developmental toxicity (decreased fetal weights but no birth defects) in pregnant mice exposed to high concentrations that
Carcinogenicity and Mutagenicity:

This product contains amines. Do not add nitrates due to the possible formation of nitrosamines (potential carcinogens).

12. ECOLOGICAL INFORMATION

Environmental Effects:
Block off drains and ditches. Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.

Biodegradability: Potentially biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site.

14. TRANSPORT INFORMATION

Canadian Road and Rail Shipping Classification:
This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

DSL/NDSL Status: This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.

Other Regulatory Status: Contact provincial environmental authorities to identify applicable legislation.

16. OTHER INFORMATION

Revisions: This MSDS has been reviewed and updated. Changes have been made to: Section 4 Section 8 Section 11 Section 15

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