1. IDENTIFICATION

Product Identifier
Product Name: 6 CST GROUP 3 BASE OIL

Other means of identification
SDS #: WOC-054

Recommended use of the chemical and restrictions on use
Recommended Use:
- Manufacture of substance
- Use as an intermediate
- Distribution of substance
- Formulation & (re)packing of substances and mixtures
- Uses in Coatings
- Use in Cleaning Agents
- Use in Oil and Gas field drilling and production operations
- Metal working fluids / rolling oils
- Use as binders and release agents
- Use in Agrochemicals
- Road and construction applications
- Rubber production and processing
- Polymer processing
- Lubricants
- Use in laboratories
- Mining chemicals
- Water treatment chemicals
- Explosives manufacture & use
- Functional fluid

See the PROC/SU/ERC codes of the identified uses in Section 16

Details of the supplier of the safety data sheet
Supplier Address:
Warren Oil Company, LLC
915 E. Jefferson Ave.
West Memphis, AR 72301

Emergency Telephone Number
Company Phone Number: 1-800-428-9284
Emergency Telephone (24 hr): CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Product is not classified hazardous

Classification of the substance or mixture
In accordance with paragraph (d) of 2012 29 CFR § 1910.1200 [OSHA GHS] (not classified).
1272/2008 (CLP)

67/548/EEC – 1999/45/EC
Label elements
In accordance with paragraph (f) of 2012 29 CFR § 1910.1200 [OSHA GHS] (not classified, no labeling required).
1272/2008 (CLP)

Other hazards
Oil mist may irritate the eyes and the respiratory tract. Prolonged or repeated skin contact may irritate the skin and produce dermatitis. Risk of soil and ground water contamination.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substances</th>
<th>Chemical name of the substance</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>72623-87-1 / 276-738-4 (CAS/EC)</td>
<td>Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based; Baseoil - unspecified</td>
<td>100%</td>
<td>CLP: -  DSD-DPD: -</td>
</tr>
</tbody>
</table>

Other information
A petroleum product. DMSO extract < 3 Weight % (IP 346). The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances. (1272/2008/EC (“CLP”), Annex VI, Note L).

4. FIRST-AID MEASURES

Description of first aid measure

Inhalation
Inhalation is unlikely because of the low pressure of the substance at ambient temperature. If breathed in, move person into fresh air. Consult a physician.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. Splashes of hot product cause burns in the eyes and on the skin. Seek medical attention in all cases of serious burns.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

Ingestion
DO NOT INDUCE VOMITING. In case of ingestion, always assume that aspiration has occurred. Consult a physician (risk of aspiration into the lungs especially if nausea or irritation occurs).

Most important symptoms and effects
Oil mist may irritate the eyes and the respiratory tract.

Symptoms
May be harmful in contact with skin. Harmful if inhaled.

Indication of immediate medical attention and special treatment needed
Aspiration into the lungs can cause fatal chemical pneumonitis.

5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Dry powder, carbon dioxide. Sand. Heavy foam and water fog for professional firefighters.

Extinguishing media which must not be used for safety reasons
Water jet.
Special hazards arising from the substance or mixture
Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide.

Advice for firefighters
Precautions for fire-fighting: Self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Evacuate unnecessary personnel. Avoid skin contact and inhalation of oil mist. Wear adequate protective equipment at all operations. Spillages make surfaces slippery.

Remove all sources of ignition. Take measures to prevent the build up of electrostatic charge. Large spillages may be cautiously covered with foam, if available, to limit fire risk.

Environmental Precautions
Try to restrict the release and prevent spread of the product into the environment. Collect liquid before it spreads into drains, the ground and waters. In case of spill, immediately contact local authorities. Risk of soil and ground water contamination.

Methods and material for containment and cleaning up
Immediately start clean-up of the liquid and contaminated soil. Large spills should be collected mechanically (remove by pumping) for disposal. Small amounts can be collected using absorbent material.

If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.

Reference to other sections
For personal protection, see Section 8.
Product waste should be disposed in accordance with Section 13.

7. HANDLING AND STORAGE

Precautions for safe handling
Provide sufficient ventilation when handling the product. Avoid skin contact and inhalation of oil mist. Wear protective equipment when needed. When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Spillages make surfaces slippery. Wear safety shoes while handling containers.

Keep away from fire, sparks and heated surfaces. Take measures to prevent the build up of electrostatic charge. Avoid splash filling of bulk volumes when handling hot liquid product. For personal protection, see Section 8.

Conditions for safe storage, including any incompatibilities
Keep tightly closed in a dry, cool and well-ventilated place. Protect against light. Take precautionary measures to prevent product spills into drains, the ground or waters. Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations. Store in accordance with local regulations.

Keep in properly labeled containers. Recommended materials for containers, or container linings use mild steel, stainless steel. Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use.

Specific end use(s)
None known.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Threshold limits
Oil mist: 5 mg/m³ (8 h)
HTP 2011 / FN

Other information on limit values
The occupational exposure monitoring method: Oil mist: NIOSH Method 5026, SFS-EN 689.

Limit values in other countries
5 mg/m³, TWA PEL (OSHA)
5 mg/m³, TLV-TWA (ACGIH)
10 mg/m³, TLV-STE (ACGIH)

DNELs
No information available.

PNECS
No information available.

Exposure controls
Appropriate engineering controls
Ensure adequate ventilation. Use personal protective equipment and/or local ventilation when needed.

Individual protection measures
Respiratory protection
Oil mist: respirator (combined particle and organic vapor filter, type A2/P2). Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 17 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirators according to standards EN 140 and EN 141.

Hand protection
Protective gloves: PVC, nitrile rubber. Change protective gloves regularly. Protective gloves according to standards EN 420 and EN 374.

Eye/face protection
Tightly fitting safety goggles.

Skin protection
Protective clothing (antistatic), splash-proof chemical protective clothing when needed.

Environmental exposure controls
Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: Colorless, clear liquid
Odor: Almost odorless
Odor threshold: -
PH: -
Melting Point/Freezing Point: Pour point / Melting point (Melting/pour point) ≤ -12 °C (ASTM D-97)
Initial boiling point/boiling range: 370-600 °C
Flash Point: > 220 °C (ASTM D-92)
Evaporation Rate: -
Flammability (Solid, Gas): -
Explosive properties
Lower explosion limit -
Upper explosion limit -
Vapor Pressure <0,1 hPa (20 °C)
Vapor Density -
Relative Density 0,83-0,85 (15°C)(ASTM D-4052)
Solubility(ies) -
Water Solubility Insoluble
Fat solubility (solvent/oil to be specified) -
Partition Coefficient: n-octanol/water Base oil hydrocarbons log Kow > 6
Auto-ignition Temperature -
Decomposition Temperature -
Viscosity Kinematic viscosity, typical value: 32 mm²/s (40°C) (ASTM D-445)
Explosive Properties None
Oxidizing Properties None
Other information Melting/pour point ≤ -12 °C
Viscosity, dynamic 69,6 mPa.s (+20 °C)
Viscosity, dynamic ≤ 50 mPa.s @ Temperature minimum +27 °C

10. STABILITY AND REACTIVITY

Reactivity
No dangerous reaction known under conditions of normal use.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None known.

Conditions to Avoid
Keep away from fire, sparks and heated surfaces.

Incompatible Materials
Incompatible with strong acids and oxidizing agents.

Hazardous Decomposition Products
No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity
Very low toxicity
LD50/oral/rat > 5000 mg/kg (OECD 401).
LD50/dermal/rabbit > 2000 mg/kg (OECD 402).
LC50/inhalation/4h/rat = > 5,53 mg/L (OECD) 403).

Irritation and corrosion
Not classified. (OECD 404, 405). Oil mist may irritate the eyes and the respiratory tract. Prolonged or repeated skin contact may irritate the skin and produce dermatitis.

Sensitization
Not a skin sensitizer. (OECD 406).
Subacute, subchronic and prolonged toxicity
Not classifiable as a human carcinogen. (OECD 451, 453).
No toxicity to reproduction. (OECD 421).
Damage to fetus not classifiable (OECD 414).
Genotoxicity tests (in vitro and in vivo) have been negative. (OECD 471, 473, 474, 476)

STOT-single exposure
No known effect.

STOT-repeated exposure
No known effect. (OECD 408, 410, 411, 412, 453)

Aspiration hazard
Not classified. Aspiration into the lungs can cause fatal chemical pneumonitis.

Other information on acute toxicity
Toxicological data are based on tests with corresponding products or components.
Used oils may contain accumulated contaminants dangerous to health and the environment.

12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity
Very low toxicity.

Acute aquatic toxicity
fish: LL50/96h > 100 mg/L; NOEL/96h >= 100 mg/L (OECD 203)
crustacean: EL50/24-48h; NOEL/48-96h; LL50/24-96h > 10 000 mg/L (OECD 202)
algae: NOEL/72h >= 100 mg/L (OECD 211)

Chronic aquatic toxicity:
Crustacean: NOEL/21d = 10 mg/L (OECD 211)

Toxicity to other organisms
Very low toxicity. Toxicity to microorganisms: NOEL/10min > 1,93 mg/L (DIN 38412, DIN38409)

Persistence/Degradability
Biodegradation
Not readily degradable (OECD301B).

Chemical degradation
Not readily degradable.

Bioaccumulative potential
Base oil hydrocarbons are possibly accumulative (log Kow > 6).

Mobility in soil
The product is insoluble in water and mainly not volatile. Product can penetrate soil until reaching the surface of ground water. Degradation occurs extremely slowly under anaerobic conditions. Base oil hydrocarbons can be absorbed onto organic material in soil or sediment (log Kow > 6).

Results of PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB). (anthracene < 0,1 %)

Other adverse effects
Information given is based on data on the components and the ecotoxicology of similar products.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Product waste is hazardous waste. It should be treated according to national regulations and local authorities’ advice.

Waste from residues / unused products
Used oils may contain accumulated contaminants dangerous to health and the environment. Empty containers may contain combustible product residues. Empty containers should be taken for local recycling or waste disposal.

14. TRANSPORT INFORMATION

UN number
Not classified as dangerous in the meaning of transport regulations.

UN proper shipping name
-

Transport hazard class(es)
-

Packing group
-

Environmental hazards
-

Special precautions for users
-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Bulk : (MARPOL 73/78, Annex II): Noxious liquid, NF (5) n.o.s. (NEXBASE 3060, contains Cycloalkanes C12+) ST 2, Cat. Y. According to MARPOL: “Non-solidifying substance”.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
WGK = 1 (Wassergefährdungsklasse, Germany)

To the best of our knowledge, the product components are not listed on any US national/regional regulatory lists except the TSCA inventory.

The product has been listed in the following chemical inventories: TSCA (USA), DSL (Canada), AICS (Australia), ECL (South Korea), PICCS (Philippines), NZIoC (New Zealand), IECS (China), ENCS (Japan); inventories of Taiwan and Switzerland.


Chemical safety assessment
A Chemical Safety Assessment has been carried out for this substance. Product is not classified hazardous. Exposure scenarios are not required.

16. OTHER INFORMATION

Key or legend to abbreviations and acronyms

DNEL = Derived No-Effect Level
PNEC = Predicted No-Effect Concentration
PROC = Process Category
PC = Product Category
SU = Sector of Use
ERC = Environmental Release Category

PEL = Permissible Exposure Limit
STEL = Short-term Exposure Limit
TLV = Threshold Limit Value
TWA = Time-Weighted Average

OSHA = Occupational Safety and Health Administration
ACGIH = American Conference of Governmental Industrial Hygienists

IARC = International Agency for Research on Cancer
NTP = National Toxicology Program

Key literature references and sources for data
Chemical Safety Report; Other Lubricant Base Oils (Concawe, 2012).

Recommended restrictions

Identified uses:

Manufacture of substance (PROC 1, 2, 3, 4, 8a/b, 15; SU 3, 8, 9; ERC 4)
Use as an intermediate (PROC 1, 2, 3, 4, 8a/b, 15; SU 3, 8, 9; ERC 6a)
Distribution of substance (PROC 1, 2, 3, 4, 8a/b, 9, 15; SU 3; ERC 4, 5, 6a/b/c/d, 7)
Formulation & (re)packing of substances and mixtures (PROC 1, 2, 3, 4, 5, 81/b, 9, 14, 15; SU 10; ERC 2)

Uses in Coatings:
Industrial use (PROC 1, 2, 3, 4, 5, 7, 8a/b, 10, 13, 15; SU 3; ERC 4);
Professional use (PROC 1, 2, 3, 4, 5, 8a/b, 10, 11, 13, 15, 19; SU 22; ERC 8a/d);
Consumers (PC 1, 4, 8, 9a/b/c, 18, 23, 24, 31, 34; SU 21; ERC 8a/d)

Use in Cleaning Agents:
Industrial use (PROC 1, 2, 3, 4, 7, 8a/b, 10, 13, SU 3; ERC 4);
Professional use (PROC 1, 2, 3, 4, 5, 8a/b, 10, 11, 13, 15, 19; SU 22; ERC 8a/d);
Consumers (PC 1, 4, 5, 8, 9, 10, 18, 23, 24, 31; SU 21; ERC 8a/d)

Use in Oil and Gas field drilling and production operations:
Industrial use (PROC 1, 2, 3, 4, 8a/b; SU 3; ERC 4);
Professional use (PROC 1, 2, 3, 4, 8a/b; SU 22; ERC 9b)

Metal working fluids / rolling oils:
Industrial use (PROC 1, 2, 3, 4, 5, 7, 8a/b, 9, 10, 13, 17; SU 3; ERC 4);
Professional use (PROC 1, 2, 3, 5, 8a/b, 10, 11, 13, 17; SU 22; ERC 8a/d)

Use as binders and release agents:
Industrial use (PROC 1, 2, 3, 4, 6, 7, 8b, 10, 13, 14; SU 3; ERC 4);
Professional use (PROC 1, 2, 3, 4, 6, 8a/b, 10, 11, 14; SU 22; ER 8a/d)

Use in Agrochemicals:
Professional use (PROC 1, 2, 4, 8a/b, 11, 13; SU 22; ERC 8a/d);
Consumers (PC 12, 27; SU 21; ERC 8a/d)

Road and construction applications: Professional use (PROC 8a/b, 9, 10, 11, 13; SU 22; ERC 8d/f)

Rubber production and processing: Industrial use (PROC 1, 2, 3, 4, 5, 6, 7, 8a/b, 10, 13, 14, 15, 21; SU 3, 10, 11; ERC 4, 6d)

Polymer processing:
Industrial use (PROC 1, 2, 3, 4, 5, 6, 8a/b, 9, 13, 14, 21; SU 10; ERC 4, 6d)
Professional use (PROC 1, 2, 6, 8a/b, 14,21, SU 22; ERC 8a/d)

Lubricants:
Industrial use (PROC 1, 2, 3, 4, 7, 8a/b, 9, 10, 13, 17, 18; SU 3; ERC 4, 7);
Use in laboratories:
- Industrial use (PROC 10, 15, SU 3; ERC 4);
- Professional use (PROC 10, 15, SU 22; ERC 8a)

Mining chemicals:
- Industrial use (PROC 1, 2, 3, 4, 5, 8a/b, 9; SU 10; ERC 4)
- Professional use (PROC 10, 15, SU 22; ERC 8a)

Water treatment chemicals:
- Industrial use (PROC 1, 2, 3, 4, 8a/b, 13; SU 10; ERC 4);
- Professional use (PROC 1, 2, 3, 4, 8a/b, 13; SU 22; ERC 8a/d/f)

Explosives manufacture & use:
- Professional use (PROC 1, 3, 5, 8a/b; SU 22; ERC 8e)

Functional fluid:
- Industrial use (PROC 1, 2, 3, 4, 8a/b, 9; SU 3; ERC 7);
- Professional use (PROC 1, 2, 3, 8a, 9, 20; SU 22; ERC 9a/b);
- Consumers (PC 16, 17; SU 21; ERC 9a/b)

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Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet