SAFETY DATA SHEET

Revision date: 2 May 2018  Initial date of issue: 5 July 2007  SDS No.  116B-21

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
651 Detergent Lubricating Oil (Bulk)

1.2. Relevant identified uses of the substance or mixture and uses advised against
Petroleum base lubricant.

1.3. Details of the supplier of the safety data sheet
Company: A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel. +1 978-469-6446    Fax: +1 978-469-6785
(Mon. - Fri. 8:30 - 5:00 PM EST)
SDS requests: www.chesterton.com
E-mail (SDS questions): ProductMSDSs@chesterton.com
E-mail: customer.service@chesterton.com

Canada: A.W. Chesterton Company Ltd., 889 Fraser Drive,
Unit 105, Burlington, Ontario L7L 4X8 – Tel. 905-335-5055
EU: Chesterton International GmbH, Am Lenzenfleck 23,
D85737 Ismaning, Germany – Tel. +49-89-996-5460

1.4. Emergency telephone number
24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)
NSW Poisons Information Centre (Australia): 13 11 26

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Aspiration hazard, Category 1, H304

2.1.2. Australian statement of hazardous nature
Not classified as hazardous according to criteria of Safe Work Australia.

2.1.3. Additional information
None

2.2. Label elements
Hazard pictograms:

Signal word: Danger
Hazard statements: H304 May be fatal if swallowed and enters airways.
Precautionary statements: P301/310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.
Supplemental information: None

2.3. Other hazards
None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

<table>
<thead>
<tr>
<th>Hazardous Ingredients¹</th>
<th>% Wt.</th>
<th>CAS No./EC No.</th>
<th>REACH Reg. No.</th>
<th>CLP/GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic*</td>
<td>70-80</td>
<td>64742-52-5 / 265-155-0</td>
<td>01-211946 / 7170-45</td>
<td>Asp. Tox. 1, H304</td>
</tr>
</tbody>
</table>

Other ingredients:

- Acetic acid, C11-14-isoalkyl esters, C13-rich | 5-10 | 108419-35-8 / 283-740-9 | NA | Not classified |

For full text of H-statements: see SECTION 16.

*Contains less than 3 % DMSO extract as measured by IP 346.


SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Skin contact: Wash skin with soap and water. Contact physician if irritation persists.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Do not induce vomiting. Contact physician immediately.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Do not ingest. See section 8 for recommendations on personal protective equipment.

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

Aspiration into the lungs may cause chemical pneumonitis or pulmonary oedema. Direct eye contact may cause eye irritation. High vapor concentration can cause eye and respiratory irritation, headache and dizziness. Prolonged or repeated skin contact may defat the skin and cause skin irritation.

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

Treat symptoms.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Carbon dioxide, dry chemical or foam

Unsuitable extinguishing media: High volume water jet

5.2. Special hazards arising from the substance or mixture

None

5.3. Advice for firefighters

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

Flammability Classification: –

HAZCHEM Emergency Action Code: 3 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Cordon off spill area. Surfaces can be slippery. Provide adequate ventilation. Utilize exposure controls and personal protection as specified in Section 8.
6.2. Environmental Precautions
Keep out of sewers, streams and waterways.

6.3. Methods and material for containment and cleaning up
Contain spill to a small area. Pick up with absorbent material (sand, sawdust, clay, etc.) and place in a suitable container for disposal.

6.4. Reference to other sections
Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Utilize exposure controls and personal protection as specified in Section 8.

7.2. Conditions for safe storage, including any incompatibilities
Keep container closed when not in use. Store in a cool, dry area.

7.3. Specific end use(s)
No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>OSHA PEL¹ ppm</th>
<th>OSHA PEL¹ mg/m³</th>
<th>ACGIH TLV² ppm</th>
<th>ACGIH TLV² mg/m³</th>
<th>UK WEL³ ppm</th>
<th>UK WEL³ mg/m³</th>
<th>AUSTRALIA ES⁴ ppm</th>
<th>AUSTRALIA ES⁴ mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil mist, mineral</td>
<td>–</td>
<td>5</td>
<td>–</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>5</td>
</tr>
<tr>
<td>Oxo-Alcohol Acetic Acid Ester*</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

¹ United States Occupational Health & Safety Administration permissible exposure limits
² American Conference of Governmental Industrial Hygienists threshold limit values
³ EH40 Workplace exposure limits, Health & Safety Executive
⁴ Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003]

* Chesterton recommended limit, 8-hr TWA: 50 ppm, 10 mg/m³.

Derived No Effect Level (DNEL) according to Regulation (EC) No 1907/2006:

Workers
Not available

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No 1907/2006:
Not available

8.2. Exposure controls

8.2.1. Engineering measures
No special requirements. If exposure limits are exceeded, provide adequate ventilation.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. If exposure limits are exceeded, use a half or full-face respirator with combined dust/organic vapour filter (EN filter type A/P).

Protective gloves: Chemical resistant gloves (e.g. Viton*, neoprene, nitrile). *DuPont's registered trademark.

Eye and face protection: Safety goggles or glasses.

Other: Impervious gloves and clothing as necessary for repetitive, prolonged contact with liquid.
8.2.3. Environmental exposure controls
Refer to sections 6 and 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>low viscosity liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>mild petroleum odor</td>
</tr>
<tr>
<td>Colour</td>
<td>amber</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>220°C (428°F)</td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>% Volatile (by volume)</td>
<td>9%</td>
</tr>
<tr>
<td>Flash point</td>
<td>144°C (290°F)</td>
</tr>
<tr>
<td>Method</td>
<td>PM Closed Cup</td>
</tr>
<tr>
<td>Viscosity</td>
<td>28 cps @ 25°C</td>
</tr>
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<td>Melting point</td>
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<tr>
<td>% Volatile (by volume)</td>
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</tr>
<tr>
<td>Initial boiling point</td>
<td>220°C (428°F)</td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>% Volatile (by volume)</td>
<td>9%</td>
</tr>
</tbody>
</table>

9.2. Other information
Kinematic viscosity at 40°C: 16.8 mm²/s.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Refer to sections 10.3 and 10.5.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid
Open flames and red hot surfaces.

10.5. Incompatible materials
Caustics, strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products
Carbon Monoxide, Carbon Dioxide and other toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Primary route of exposure under normal use: Inhalation, skin and eye contact.

Acute toxicity -

Oral:

Based on available data on components, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>LD50, rat</td>
<td>&gt; 5000 mg/kg, estimated</td>
</tr>
<tr>
<td>Acetic acid, C11-14-isoalkyl esters, C13-rich</td>
<td>LD50, rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Dermal:

Based on available data on components, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>LD50, rat</td>
<td>&gt; 2000 mg/kg, estimated</td>
</tr>
<tr>
<td>Acetic acid, C11-14-isoalkyl esters, C13-rich</td>
<td>LD50, rabbit</td>
<td>&gt; 3160 mg/kg</td>
</tr>
</tbody>
</table>
Inhalation: High vapor concentration can cause eye and respiratory irritation, headache and dizziness.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated</td>
<td>LC50, rat, 4 hours</td>
<td>&gt; 5 mg/l, estimated</td>
</tr>
<tr>
<td>heavy naphthenic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Prolonged or repeated skin contact may defat the skin and cause skin irritation.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated</td>
<td>Skin irritation, rabbit</td>
<td>&lt; 0.5 / 8.0, estimated</td>
</tr>
<tr>
<td>heavy naphthenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic acid, C11-14-isoalkyl esters,</td>
<td>Skin irritation, rabbit</td>
<td>Slightly irritating</td>
</tr>
<tr>
<td>C13-rich</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Serious eye damage/irritation: Direct eye contact may cause eye irritation.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated</td>
<td>Eye irritation, rabbit</td>
<td>&lt; 15 / 110, estimated</td>
</tr>
<tr>
<td>heavy naphthenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic acid, C11-14-isoalkyl esters,</td>
<td>Eye irritation</td>
<td>Slightly irritating</td>
</tr>
<tr>
<td>C13-rich</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Respiratory or skin sensitisation: Distillates (petroleum), hydrotreated heavy naphthenic: Skin sensitization is indicated as non-sensitizing based on data from similar products. Acetic acid, C11-14-isoalkyl esters, C13-rich: did not produce any evidence of skin irritation or skin sensitization response in a repeated insult patch test in human volunteers.

Germ cell mutagenicity: Distillates (petroleum), hydrotreated heavy naphthenic: this substance is considered non-mutagenic and has a negative potential for tumor development based on results from the Modified Ames Assay, with a Mutagenic Index of less than 1.0. Acetic acid, C11-14-isoalkyl esters, C13-rich: expected to be non-mutagenic based on data from similar materials.

Carcinogenicity: This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or Regulation (EC) No 1272/2008.

Reproductive toxicity: Distillates (petroleum), hydrotreated heavy naphthenic: based on available data, the classification criteria are not met. Acetic acid, C11-14-isoalkyl esters, C13-rich: maternal NOAEL, rat: 500 mg/kg/day; developmental NOAEL, rat: 2500 mg/kg/day.

STOT – single exposure: Distillates (petroleum), hydrotreated heavy naphthenic: no data available.

STOT – repeated exposure: Distillates (petroleum), hydrotreated heavy naphthenic: based on available data, the classification criteria are not met. Acetic acid, C11-14-isoalkyl esters, C13-rich, 90-day oral subchronic study, rat: 500 mg/kg/day.

Aspiration hazard: May be fatal if swallowed and enters airways.

Other information: None

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

12.1. Toxicity
Distillates (petroleum), hydrotreated heavy naphthenic: available data indicate this product is not acutely toxic. Polyoxyethylene oleyl ether phosphate: Harmful to aquatic life with long lasting effects. (algae, based on data from similar materials.).

12.2. Persistence and degradability
Distillates (petroleum), hydrotreated heavy naphthenic: 31% biodegradation (OECD 301F, 28 days). Acetic acid, C11-14-isoalkyl esters, C13-rich: expected to biodegrade slowly in soil and water.

12.3. Bioaccumulative potential
Distillates (petroleum), hydrotreated heavy naphthenic: not expected to bioaccumulate. Acetic acid, C11-14-isoalkyl esters, C13-rich: expected to bioaccumulate.
12.4. Mobility in soil
Low viscosity liquid. Slightly soluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Distillates (petroleum), hydrotreated heavy naphthenic: large volumes may penetrate soil and contaminate groundwater. Acetic acid, C11-14-isoalkyl esters, C13-rich: expected to have high affinity for adsorption to soil and sediments

12.5. Results of PBT and vPvB assessment
Not available

12.6. Other adverse effects
None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Incinerate absorbed material with a properly licensed facility. Free product should be incinerated or may be amenable to fuels blending. Check local, state and national/federal regulations and comply with the most stringent requirement. This product is not classified as a hazardous waste according to 2008/98/EC.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number
ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.2. UN proper shipping name
ADR/RID/ADN/IMDG/ICAO: NON-HAZARDOUS, NON REGULATED
TDG: NON-HAZARDOUS, NON REGULATED
US DOT: NON-HAZARDOUS, NON REGULATED

14.3. Transport hazard class(es)
ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.4. Packing group
ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.5. Environmental hazards
NOT APPLICABLE

14.6. Special precautions for user
NOT APPLICABLE

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
NOT APPLICABLE

14.8. Other information
NOT APPLICABLE

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU regulations
Authorisations under Title VII: Not applicable
Restrictions under Title VIII: None
Other EU regulations: None

15.1.2. National regulations

US EPA SARA TITLE III

312 Hazards: Aspiration hazard
313 Chemicals: None

Other national regulations: None

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.
**SECTION 16: OTHER INFORMATION**

**Abbreviations and acronyms:**
- ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE: Acute Toxicity Estimate
- BCF: Bioconcentration Factor
- cATpE: Converted Acute Toxicity point Estimate
- CLP: Classification Labelling Packaging Regulation (1272/2008/EC)
- ES: Exposure Standard
- GHS: Globally Harmonized System
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Dangerous Goods
- LC50: Lethal Concentration to 50 % of a test population
- LD50: Lethal Dose to 50% of a test population
- LOEL: Lowest Observed Effect Level
- N/A: Not Applicable
- NA: Not Available
- NOEC: No Observed Effect Concentration
- NOEL: No Observed Effect Level
- OECD: Organization for Economic Co-operation and Development
- PBT: Persistent, Bioaccumulative and Toxic substance
- (Q)SAR: Quantitative Structure-Activity Relationship
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC)
- REL: Recommended Exposure Limit
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- STOT RE: Specific Target Organ Toxicity, Repeated Exposure
- STOT SE: Specific Target Organ Toxicity, Single Exposure
- TDG: Transportation of Dangerous Goods (Canada)
- TWA: Time Weighted Average
- US DOT: United States Department of Transportation
- vPvB: very Persistent and very Bioaccumulative substance
- WEL: Workplace Exposure Limit
- WHMIS: Workplace Hazardous Materials Information System

Other abbreviations and acronyms can be looked up at www.wikipedia.org.

**Key literature references and sources for data:**
- Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
- European Chemicals Agency (ECHA) - Information on Chemicals
- Hazardous Chemical Information System (HCIS)
- National Institute of Technology and Evaluation (NITE)
- Swedish Chemicals Agency (KEMI)
- U.S. National Library of Medicine Toxicology Data Network (TOXNET)

**Procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP] / GHS:**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp. Tox. 1, H304</td>
<td>On basis of components and test data</td>
</tr>
</tbody>
</table>

**Relevant H-statements:**
- H304: May be fatal if swallowed and enters airways.

**Hazard pictogram names:**
- Health hazard

**Changes to the SDS in this revision:**
- Sections 2.1, 2.2, 3, 4.1, 5.3, 8.1, 12.2, 12.3, 15.1.2, 16.

**Date of last revision:**
- 2 May 2018

**Further information:**
- None

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.