MEADWESTVACO® L-5

Section 1. Identification

- **GHS product identifier**: MEADWESTVACO® L-5
- **Chemical name**: Fatty acids, tall-oil
- **Product type**: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

- **Material uses**: Cleaners, flotation reagents, corrosion inhibitors, and metal working.

Manufacturer

- MeadWestvaco Corporation
- Specialty Chemicals Division
- 5255 Virginia Avenue
- North Charleston, South Carolina USA 29406-3615
- msds@mwv.com
- Telephone no.: +1 843 740 2236, +1 800 458 4034
- Hours of operation: 0800 - 1700 EST

Section 2. Hazards identification

- **Classification of the substance or mixture**: Not classified.

GHS label elements

- **Signal word**: No signal word.
- **Hazard statements**: No known significant effects or critical hazards.
- **Precautionary statements**:
  - **Prevention**: Not applicable.
  - **Response**: Not applicable.
  - **Storage**: Not applicable.
  - **Disposal**: Not applicable.

Other hazards which do not result in classification

- None known.

Section 3. Composition/information on ingredients

- **Substance/mixture**: Substance
- **Chemical name**: Fatty acids, tall-oil
- **Other means of identification**: Not available.

CAS number/other identifiers

- **CAS number**: 61790-12-3
- **EC number**: 263-107-3

Version: 2.01

Validated on 4/15/2014.
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>100</td>
<td>61790-12-3</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

**Description of necessary first aid measures**

**Eye contact**
- Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation**
- Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact**
- Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**
- Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**
- **Eye contact**: No known significant effects or critical hazards.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.

**Over-exposure signs/symptoms**
- **Eye contact**: No specific data.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

- **Notes to physician**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **Specific treatments**: No specific treatment.
- **Protection of first-aiders**: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)
Section 5. Fire-fighting measures

**Extinguishing media**
- **Suitable extinguishing media**: Use an extinguishing agent suitable for the surrounding fire.
- **Unsuitable extinguishing media**: None known.

**Specific hazards arising from the chemical**
- **Hazardous thermal decomposition products**: In a fire or if heated, a pressure increase will occur and the container may burst.
- **Decomposition products may include the following materials**: carbon dioxide, carbon monoxide

**Special protective actions for fire-fighters**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Special protective equipment for fire-fighters**: Use an extinguishing agent suitable for the surrounding fire. Suitable extinguishing media: None known. Unsuitable extinguishing media: None known.

Section 6. Accidental release measures

**Environmental precautions**
- Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Personal precautions, protective equipment and emergency procedures**
- **For non-emergency personnel**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
- **For emergency responders**: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Methods and materials for containment and cleaning up**
- **Small spill**: Stop leak if without risk. Move containers from spill area. Absorb with an inert material and transfer the spilt material and absorbent to an appropriate waste disposal container. Dispose of according to all federal, state and local applicable regulations.
- **Large spill**: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Section 7. Handling and storage

Precautions for safe handling: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store between the following temperatures: 5 to 30°C (41 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits: None.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields or splash goggles.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. > 8 hours (breakthrough time): Synthetic or rubber gloves or natural rubber (latex)

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Section 8. Exposure controls/personal protection

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.
Colour: Yellow.
Odour: Bland.
Odour threshold: Not available.
pH: Not available.
Melting point: >5°C (>41°F)
Boiling point: >215°C (>419°F)
Flash point: Closed cup: 199°C (390.2°F) Open cup: 194°C (381.2°F)
Evaporation rate: <1 (ether (anhydrous) = 1)
Flammability (solid, gas): Not applicable.
Lower and upper explosive (flammable) limits: Not available.
Vapour pressure: Not available.
Vapour density: >1 [Air = 1]
Relative density: 0.894 to 0.906 [Water = 1]
Solubility: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water: 4.7
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
SADT: Not available.
Viscosity: Not available.
Other: Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, reducing materials and combustible materials.
Section 10. Stability and reactivity

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
Not available.

Sensitisation
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.
Section 11. Toxicological information

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Long term exposure**
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Potential chronic health effects**
Not available.

**General**: No known significant effects or critical hazards.

**Carcinogenicity**: No known significant effects or critical hazards.

**Mutagenicity**: No known significant effects or critical hazards.

**Teratogenicity**: No known significant effects or critical hazards.

**Developmental effects**: No known significant effects or critical hazards.

**Fertility effects**: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
Not available.

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>EC50 854.9 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>EC50 &gt;1000 mg/l</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>EC50 &gt;1000 mg/l</td>
<td>Micro-organism</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 &gt;1000 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>NOEC &gt;1000 mg/l</td>
<td>Micro-organism</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>NOEL 500 mg/l</td>
<td>Algae</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>NOEL 750 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>NOEL 1000 mg/l</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>NOEL 1000 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Persistence/degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>-</td>
<td>80.03 % - Readily - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
- BOD: 188000 mg/L [28 days]
- BOD: 2.04 g O₂/g [28 days]
- COD: 2.549 g O₂/g

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

Version: 2.01
Validated on 4/15/2014.
Section 12. Ecological information

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, tall-oil</td>
<td>4.7</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

Mobility in soil

- Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>UN</th>
<th>IMDG</th>
<th>IATA</th>
<th>DOT Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Version: 2.01

Validated on 4/15/2014.
### Section 14. Transport information

<table>
<thead>
<tr>
<th>14.5 Environmental hazards</th>
<th>No.</th>
<th>No.</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.6 Special precautions for user</td>
<td>Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.</td>
<td>Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.</td>
<td>Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.</td>
</tr>
</tbody>
</table>

### Additional information

- 

### Section 15. Regulatory information

**China**

Safety, health and environmental regulations specific for the product: No known specific national and/or regional regulations applicable to this product (including its ingredients).

China inventory (IECSC): This material is listed or exempted.

**List of Goods banned for Importing**

None of the components are listed.

**List of Goods banned for Exporting**

None of the components are listed.

**List of Toxic Chemicals Severely Restricted for Importing & Exporting by China**

None of the components are listed.

**Japan**

**Japan Control Law**

Explosives Control Law: Not applicable.

High Pressure Gas Control Law: Not applicable.

Fire Service Law: Not applicable.  
Designated quantity: Not available.

Fire Service Law: Not applicable.  
Designated quantity: Not available.

Substance to report: Not applicable.  
Designated quantity: Not available.

Fire Service Law - Obstructive materials: Not listed 
Characteristics: Not available.

Danger class: Not available.

**Poisonous and Deleterious Substances**
Section 15. Regulatory information

Use of specified chemical substances : Not available.
ISHL : Not available.

Organic solvents poisoning prevention : Not available.
Lead regulation : Not applicable.
Occupational diseases : Not applicable.
Law Concerning Prevention of Pollution of the Ocean and Maritime Disaster : Not available.
Notification Regulating Transportation of Dangerous Materials by Sea : Not available.
Civil Aeronautics Law : Not available.
Pollutant Release and Transfer Registers (PRTR) : Not listed
Road law : Not applicable.
JSOH Carcinogen : Not listed
ISHL Prevention of Tetraalkyl Lead Poisoning : Not listed
ISHL Harmful Substances Subject to Obtaining Permission for Manufacturing : Not listed
ISHL Harmful Substances, Prohibited for Manufacturing : Not listed
ISHL Chemicals requiring notification : Not listed
ISHL Dangerous Substances : Not listed
List of Specially Controlled Industrial Waste : Not listed

Chemical Substances Control Law (CSCL)
Not available.

Biodegradability : Not available.
Concentration of chemicals accumulated in fish : Not available.
Japan inventory : This material is listed or exempted.
Other regulations : Not available.
Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

South Korea
A. Regulation according to ISHA

Version: 2.01 Validated on 4/15/2014.
Section 15. Regulatory information

**ISHA Article 37**
This material is not listed.

**ISHA Article 38**
This material is not listed.

**B. Regulation according to TCCA**

- **TCCA Toxic chemicals**: Not applicable
- **TCCA Observational chemicals**: This material is not listed.
- **TCCA Article 32 (Banned)**: This material is not listed.
- **TCCA Article 32 (Restricted)**: This material is not listed.
- **TCCA Article 17 (TRI)**: This material is not listed.
- **Korea inventory**: This material is listed or exempted.

**C. Dangerous Materials Safety Management Act**

**D. Wastes regulation**
Dispose of contents and container in accordance with all local, regional, national and international regulations.

**E. Regulation according to other foreign laws**

- **United States inventory (TSCA 8b)**: This material is listed or exempted.
- **Safety, health and environmental regulations specific for the product**
  - **Australia inventory (AICS)**: This material is listed or exempted.
  - **Canada inventory**: This material is listed or exempted.
  - **China inventory (IECSC)**: This material is listed or exempted.
  - **Japan inventory**: This material is listed or exempted.
  - **Korea inventory**: This material is listed or exempted.
  - **Malaysia inventory (EHS Register)**: Not determined.
  - **New Zealand Inventory of Chemicals (NZIoC)**: This material is listed or exempted.
  - **Philippines inventory (PICCS)**: This material is listed or exempted.
  - **Taiwan inventory (CSNN)**: This material is listed or exempted.
  - **United States inventory (TSCA 8b)**: This material is listed or exempted.

**Brazil**

- **Safety, health and environmental regulations specific for the product**
  - No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

**History**

- **Date of issue/Date of revision**: 2014-04-15
- **Date of previous issue**: 2013-08-07
- **Version**: 2.01
Section 16. Other information

**Key to abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway</td>
</tr>
<tr>
<td>ADR</td>
<td>The European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration Factor</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>Intermediate Bulk Container</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LogPow</td>
<td>logarithm of the octanol/water partition coefficient</td>
</tr>
<tr>
<td>RID</td>
<td>The Regulations concerning the International Carriage of Dangerous Goods by Rail</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
</tbody>
</table>

**References**

Not available.

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.