

## SAFETY DATA SHEET

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

- 1.1. Product identifier** Pale 4
- Synonyms:** #40 Oil
- Chemical Abstracts Registry No:** 68187-84-8
- REACH Registration Number:** Exempt from REACH registration requirements (Annex V).

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

Surfactant

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

Vertellus LLC  
201 North Illinois Street, Suite 1800  
Indianapolis, Indiana 46204 USA  
1-201-858-7900

**e-mail Address:** sds@vertellus.com

- 1.4. Emergency telephone number** **Vertellus:** 1-201-858-7900  
**CHEMTREC (USA):** +1-800-424-9300 (collect calls accepted)  
**CHEMTREC (International):** +1-703-527-3887 (collect calls accepted)  
**NRCC (China):** +86 532 83889090

### SECTION 2: Hazards identification

**2.1. Classification of the substance or mixture** (According to Regulation (EC) No 1272/2008, 29 CFR 1910.1200 and the Globally Harmonized System)

Not Classified as Hazardous

**2.2. Label elements**

- Signal Word:** Non-Hazardous
- Hazard Precautions:** Not Classified as Hazardous
- Prevention Precautionary Statements:** Note: These precautionary statements are not prescribed by directive 1272/2008 as this product is not classified as hazardous under this directive. Wash hands thoroughly after handling with soap and water. Wear protective gloves, protective clothing, eye protection and face protection. If swallowed, in eyes, on skin or inhaled call a poison center or doctor/physician if you feel unwell. If inhaled, remove victim to fresh air and keep at rest in a comfortable position for breathing. Take off contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed.

**2.3. Other hazards**

- Other Hazards:** Not applicable.

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (weight %)	EC Number	CLP Inventory/Annex VI	EU CLP Classification (1272/2008)
Oxidized castor oil	68187-84-8	~100%	269-128-4	Not listed.	Non-Hazardous

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable).

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- Skin Contact:** Wash thoroughly after skin contact. Get medical attention if irritation develops or persists.
- Eye Contact:** Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. Seek medical advice if symptoms persist.
- Inhalation:** No specific treatment is necessary since this material is not likely to be hazardous by inhalation. Remove from exposure. If not breathing, give artificial respiration and call a physician.
- Ingestion:** If swallowed, contact physician or poison control center immediately.

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

- Acute:** Not expected to be irritating to skin or eyes. Not toxic by oral, dermal or inhalation routes. Not a sensitizer.
- Delayed Effects:** None known.

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

- Note to Physician:** No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Appropriate Extinguishing Media:** Alcohol foam, carbon dioxide, dry chemical., Water spray

#### 5.2. Special hazards arising from the substance or mixture

- Hazardous Products of Combustion:** Carbon dioxide, Carbon monoxide
- Potential for Dust Explosion:** Not applicable.
- Special Flammability Hazards:**

#### 5.3. Advice for firefighters

- Basic Fire Fighting Guidance:** Wear self-contained breathing apparatus and full protective clothing (i.e., Bunker gear). Skin and eye contact should be avoided. Normal fire fighting procedures may be used.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- Evacuation Procedures:** Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
- Special Instructions:** See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

#### 6.2. Environmental precautions

Prevent releases to soils, drains, sewers and waterways.

#### 6.3. Methods and material for containment and cleaning up

Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. For small spills, use suitable absorbent material and collect for later disposal. For large spills, the area may require diking to contain the spill. Material can then be collected (eg., suction) for later disposal. After collection of material, flush area with water. Dispose of the material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws.

#### 6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for Unique Hazards:** Not applicable.
- Practices to Minimize Risk:** Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds.
- Special Handling Equipment:** Not applicable.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage Precautions & Recommendations:** This product should be stored at ambient temperature in a dry, well-ventilated location. Protect containers against physical damage. Keep away from heat, sparks, and flame. Should be periodically inspected.
- Dangerous Incompatibility Reactions:** Incompatible with oxidizing materials.
- Incompatibilities with Materials of Construction:** None known

#### 7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Country	Occupational Exposure Limit
USA - NIOSH REL (vegetable oil mist)	10 mg/m <sup>3</sup> (total particulate); 5 mg/m <sup>3</sup> (respirable fraction)
USA - ACGIH TLV (particulates, insoluble)	10 mg/m <sup>3</sup> (total particulate); 3 mg/m <sup>3</sup> (respirable fraction)
Australia, Belgium, Canada (Ontario and Quebec), New Zealand, Singapore (vegetable oil mist)	10 mg/m <sup>3</sup> (inhalable)
Sweden (vegetable oil mist)	0.2 mg/m <sup>3</sup>
<b>Air Monitoring Method:</b>	Gravimetric analysis for total particulate and respirable fraction (<10 microns).

#### 8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

<b>Other Engineering Controls:</b>	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.
<b>Personal Protective Equipment:</b>	Wear impervious gloves (i.e., latex rubber), boots, work uniform and safety glasses. Where overexposures are a concern, use NIOSH-approved dust/mist respirator as necessary.
<b>Respirator Caution:</b>	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
<b>Thermal Hazards:</b>	Not applicable.
<b>Environmental Exposure Controls:</b>	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance, State &amp; Odor (ambient temperature):</b>	Clear, yellow-amber liquid with a mild odor		
<b>Molecular Formula:</b>	Variable composition (UVCB)	<b>Molecular Weight:</b>	Variable composition (UVCB)
<b>Vapor Pressure:</b>	0.003 PA @ 25C	<b>Evaporation Rate:</b>	< 1 (Butyl Acetate = 1)
<b>Specific Gravity or Density:</b>	0.998 @ 25°C (typical)	<b>Vapor Density (air = 1):</b>	Heavier than air.
<b>Boiling Point:</b>	313 °C	<b>Freezing / Melting Point:</b>	-18 - -10 °C
<b>Solubility in Water:</b>	Insoluble	<b>Octanol / Water Coefficient:</b>	No data available.
<b>pH:</b>	No data available.	<b>Odor Threshold:</b>	No data available.
<b>Viscosity:</b>	32 stokes @ 77F	<b>Autoignition Temperature:</b>	368°C @ 100.9 - 101.2 kPa
<b>Flash Point and Method:</b>	400°F (204°C) PMCC	<b>Flammable Limits:</b>	No data available.
<b>Flammability (solid, gas):</b>	Not applicable.	<b>Decomposition Temperature:</b>	

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Explosive Properties:

Not explosive.

Oxidizing Properties:

Not an oxidizer.

### 9.2. Other information

Not applicable.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not classified as dangerously reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Polymerization is not expected to occur

### 10.4. Conditions to avoid

None known

### 10.5. Incompatible materials

Incompatible with oxidizing materials.

### 10.6. Hazardous decomposition products

Products of incomplete combustion may include carbon monoxide, carbon dioxide and dense smoke.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute Oral LD<sub>50</sub>:

> 2000 mg/kg (rat)

Acute Dermal LD<sub>50</sub>:

2000 mg/ kg (rat)

Acute Inhalation LC<sub>50</sub>:

No data available.

Other Toxicity Data:

Not applicable.

Skin Irritation:

Non-irritating to skin.

Eye Irritation:

Mildly irritating to eyes.

Skin Sensitization:

Not sensitizing (Weight of evidence)

Mutagenicity:

Negative in Ames Assay, both with and without metabolic activation.

Reproductive / Developmental Toxicity:

No evidence of reproductive effects

Carcinogenicity:

This material is not listed by IARC, NTP or OSHA as a carcinogen. No test data is available that indicates this material is a carcinogen.

Target Organs:

None known

Aspiration Hazard:

Based on physical properties, not likely to be an aspiration hazard.

Primary Route(s) of Exposure:

Skin contact and absorption, eye contact, and inhalation. Ingestion is not likely to be a primary route of exposure.

Most important symptoms and effects, both acute and delayed

Not expected to be irritating to skin or eyes. Not toxic by oral, dermal or inhalation routes. Not a sensitizer. Delayed Effects: None known.

Additive or Synergistic effects:

None known.

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### SECTION 12: Ecological information

<u>12.1. Toxicity</u>	No data available.
<u>12.3. Bioaccumulative potential</u>	No data available
<u>12.4. Mobility in soil</u>	No data available
<u>12.5. Results of PBT and vPvB assessment</u>	This substance is not a PBT or vPvB.
<u>12.6. Other adverse effects</u>	This substance is a naturally-occurring vegetable oil. Large releases to environmental media may disrupt flora and fauna. Take appropriate precautions to prevent the spills of oils into the environment.

### SECTION 13: Disposal considerations

<u>13.1. Waste treatment methods</u>	
US EPA Waste Number:	Non-Hazardous
Waste Classification: (per US regulations)	The waste may be classified as "special" or hazardous per State regulations.
Waste Disposal:	NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

### SECTION 14: Transport information

*The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:*

14.1. UN number	Non-Hazardous	14.2. UN proper shipping name	Chemicals, N.O.S. (Castor Oil)
14.3. Transport hazard class(es)	Non-Hazardous	14.4. Packing group	Not applicable.
14.5. Environmental hazards	Not applicable.		
14.6. Special precautions for user	Not applicable.		
NA Emergency Guidebook Numbers:	Not applicable.	IMDG EMS:	Not applicable.
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code			Category Y (containing <2% free fatty acids)

### SECTION 15: Regulatory information

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

Chemical Inventory Lists:	Status:		
USA TSCA:	Listed	EINECS:	Listed (269-128-4)
Canada(DSL/NDL):	Listed (DSL)	Japan:	Not listed.

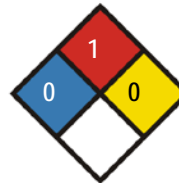
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Korea:	Listed (KE-27520)	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed
German Water Hazard Classification:	ID Number 760, not considered hazardous to waters		
SARA 313:	Not listed.		
Reportable Quantities:	Not applicable.		
State Regulations:	Not applicable.		

HMIS IV:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

NFPA:



### 15.2. Chemical safety assessment

A chemical safety assessment is not required as this substance is not classified as hazardous.

## SECTION 16: Other information

Classification Method: On basis of test data

Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.

CAS = Chemical Abstracts Service.

CFR = Code of Federal Regulations.

DSL/NDL = Domestic Substances List/Non-Domestic Substances List.

EC = European Community.

EINECS = European Inventory of Existing Commercial Chemical Substances.

ELINCS = European List of Notified Chemical Substances.

EU = European Union.

GHS = Globally Harmonized System.

LC = Lethal Concentration.

LD = Lethal Dose.

NFPA = National Fire Protection Association.

NIOSH = National Institute of Occupational Safety and Health.

NTP = National Toxicology Program.

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit.

RQ = Reportable Quantity.

SARA = Superfund Amendments and Reauthorization Act of 1986.

TLV = Threshold Limit Value.

WHMIS = Workplace Hazardous Materials Information System.

**Important Note:** Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information contained herein may change without prior notice. **THIS SAFETY DATA SHEET SUPERSEDES ALL PREVIOUS EDITIONS.**

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