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

1.1 Product identifier: OPTIMER® 9901

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Use of the Substance/Mixture: WATER CLARIFICATION AID

1.3 Details of the supplier of the safety data sheet:

COMPANY IDENTIFICATION
NALCO EUROPE B.V.
Postbus 627
2300 AP Leiden, The Netherlands
TEL: 0031 71 5241100

LOCAL COMPANY IDENTIFICATION
Nalco Ltd.
P.O. BOX 11, WINNINGTON AVENUE
NORTHWICH, CHESHIRE, U.K. CW8 4DX
TEL: +44 (0)1606 74488

For additional copies of an MSDS visit www.nalco.com and request access.
For Product Safety information please contact: EUProductSafety@nalco.com

1.4 Emergency telephone number: +32-(0)3-575-5555 Trans-European

Date of Compilation/Revision:: 08.10.2012
Version Number: 1.1

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008
This product is not classified according to (EC) Regulation (No) 1272/2008

Classification according to EU Directives 67/548/EEC or 1999/45/EC
This product is not classified as dangerous in accordance with Directives 67/548/EEC or 1999/45/EC.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008
This product is not classified, however, we recommend the following Precautionary Statements:

Precautionary Statements
P202 Do not handle until all safety precautions have been read and understood.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P314 Get medical advice/attention if you feel unwell.
Safety Data Sheet according to Regulation (EC) No 1907/2006

Product

OPTIMER® 9901

Supplemental information:

EUH210 Safety data sheet available on request.

2.3 Other hazards:

None known

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

This product is not classified according to (EC) Regulation (No) 1272/2008

SECTION 4. FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency

INHALATION
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

SKIN CONTACT
Immediately flush with plenty of water for at least 15 minutes. Get medical attention. For a large splash, flood body under a shower.

EYE CONTACT
Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

INGESTION
Seek medical advice immediately, showing the label and/or SDS. If conscious, washout mouth and give water to drink. If unconscious, do not give anything by mouth, place in the recovery position, check breathing and pulse. If necessary give artificial respiration.

PROTECTION FOR FIRST AID PERSONNEL
Wear adequate personal protective equipment.

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

A review of available data does not identify any symptoms from exposure not previously mentioned. A review of available data does not identify any symptoms from exposure not previously mentioned.

4.3 Indication of immediate medical attention and special treatment needed:

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.
SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

SUITABLE EXTINGUISHING MEDIA
Water mist may be used to cool closed containers.
Carbon dioxide, Foam, Dry powder

5.2 Special hazards arising from the substance or mixture:

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

In the event of a spill, prevent material and fire water from entering sewers or waterways.

5.3 Advice for firefighters:

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

ADVICE FOR NON-EMERGENCY PERSONNEL
For small spills i.e. For <10 litres Ensure clean-up is conducted by trained personnel only. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Restrict access to area as appropriate until clean-up operations are complete. Large spills should only be cleaned up by emergency responders.

For >10 liters Notify emergency personnel immediately. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Restrict access to area as appropriate until clean-up operations are complete.

Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

ADVICE FOR EMERGENCY RESPONDERS
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

6.2 Environmental precautions:

In the event of a spill, prevent material from entering sewers or waterways. Do not allow material to contaminate ground water system. Prevent product from entering drains. If drains, streams, soil or sewers become contaminated, notify local authority.
6.3 Methods and materials for containment and cleaning up:

Sweep up and shovel. Reclaim into recovery or salvage drums. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

6.4 Reference to other sections:

Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

HANDLING
Prevent contact with skin, eyes and clothing. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Ensure all containers are labeled. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Avoid generating dusts. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

Refer to section 6.2 for Environmental Precautions

HYGIENE RECOMMENDATIONS
Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke. Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities:

STORAGE CONDITIONS
Store separately from oxidizers. Keep in dry place. Store away from heat and sources of ignition. Connections must be grounded to avoid electrical charges.

SUITABLE CONSTRUCTION MATERIAL
Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

7.3 Specific end uses:

Specific use(s):
WATER CLARIFICATION AID

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

OCCUPATIONAL EXPOSURE LIMITS
Available exposure limits for the substance(s) are shown below.
Product

OPTIMER® 9901

Source | Substance(s) | Category | ppm | mg/m3
---|---|---|---|---
United Kingdom | Inhalable (Total Dust) Nuisance Particulates (Inhalable dust) | TWA | 10 |
 | Inhalable (Total Dust) Nuisance Particulates (Respirable dust) | TWA | 4 |

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

8.2 Exposure controls:

ENGINEERING MEASURES:
General ventilation is recommended. The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fume hood. Provide mechanical ventilation of confined spaces.

PERSONAL PROTECTIVE EQUIPMENT

GENERAL ADVICE
The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and work clothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields.

EYE/FACE PROTECTION
When handling this product, the use of safety glasses with side shields is recommended. The applicable European standard can be found in EN 166.

SKIN PROTECTION
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC. Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers. The applicable European standard can be found in EN 374.
When handling this product, the use of overalls is recommended. The applicable European standard can be found in EN ISO 20345.

RESPIRATORY PROTECTION
Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: P The applicable European standard can be found in EN 140, EN 137, EN 143 and EN 14387. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Note: These physical properties are typical values for this product and are subject to change.

9.1 Information on basic physical and chemical properties:

| PHYSICAL STATE | Powder |
9.1 Information on basic physical and chemical properties:

APPEARANCE White
Odour Slight
Odour Threshold No data available.
\( \text{pH} \ (1 \ %) \) 5.5 - 7.5
MELTING POINT / FREEZING POINT / POUR POINT No data available.
INITIAL BOILING POINT / BOILING RANGE No data available.
FLASH POINT None
EVAPORATION RATE No data available.
FLAMMABILITY (solid, gas) No data available.
LOWER EXPLOSION LIMIT No data available.
UPPER EXPLOSION LIMIT No data available.
VAPOR PRESSURE No data available.
VAPOR DENSITY No data available.
Relative density No data available.
DENSITY No data available.
BULK DENSITY 726.2 kg/m³
SOLUBILITY IN WATER Complete
OCTANOL/WATER COEFFICIENT (log Kow) No data available.
AUTOIGNITION TEMPERATURE No data available.
DECOMPOSITION TEMPERATURE No data available.
VISCOSITY No data available.
EXPLOSIVE PROPERTIES Not applicable
OXIDIZING PROPERTIES Not applicable

9.2 Other information:

Not applicable

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions.

10.2 Chemical stability:

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4 Conditions to avoid:

10.5 Incompatible materials:
Strong Bases Strong oxidizing agents

10.6 Hazardous decomposition products:
Under fire conditions: Oxides of carbon, Oxides of nitrogen

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Product:

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50: &gt; 5,000 mg/kg, Rat, Test substance: Product</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>The results of testing on guinea pigs showed this material to be non-sensitizing.</td>
</tr>
<tr>
<td>Genotoxicity</td>
<td>Contains no ingredient listed as a mutagen</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td></td>
<td>None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td></td>
<td>Assessment: No toxicity to reproduction</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td>Remarks: Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>No aspiration toxicity classification</td>
</tr>
</tbody>
</table>

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

The tests for (representative polymers) were performed in environmentally relevant water with dissolved organic carbon (DOC: 4.5 mg/l). The effects on the aquatic organisms are due to external (non-systemic) mode of
action, e.g., suffocation or immobilization. In the presence of suspended material, e.g., DOC, the polymers are bound to suspended material and the bioavailability is substantially reduced. As a result, the effects are expected to be lower.

**Product:**

| Toxicity to fish | LC50: > 100 mg/l, 96 hrs, Zebra Danio, Test substance: Representative polymer tested in water with DOC |
| Toxicity to daphnia and other aquatic invertebrates | LC50: > 100 mg/l, 48 hrs, Daphnia magna, Test substance: Representative polymer tested in water with DOC |
| Toxicity to algae | EC50: > 1,000 mg/l, 72 hrs, Green Algae (Chlorella vulgaris) |
| Toxicity to bacteria | EC50: > 400 mg/l, 18 hrs, Pseudomonas putida |

**Ecotoxicology Assessment**

| Acute aquatic toxicity | Not expected to be harmful to aquatic organisms. |
| Chronic aquatic toxicity | Not expected to demonstrate chronic toxicity to aquatic organisms |

12.2 Persistence and degradability:

**Product:**

| Biodegradability | The organic portion of this preparation is expected to be readily biodegradable. |

12.3 Bioaccumulative potential:

**Product:**

| Bioaccumulation | Elimination from the aqueous phase via precipitation or flocculation is possible., No bioaccumulation will occur. The large size of the polymer is incompatible with transport across the cellular membranes. |

12.4 Mobility in soil:

**Product:**

| Environmental fate and pathways | The product is eliminated via abiotic process (adsorption on activated sludge) to a large amount from the aqueous phase. |

12.5 Results of PBT and vPvB assessment:

**Product:**

| Assessment | This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)., This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB). |

12.6 Other adverse effects:

**Product:**

| Biochemical Oxygen Demand (BOD) | Biological degradation: Approx, 20-30% |
Chemical Oxygen Demand (COD): 1,100 mg/g. Test substance: Representative polymer tested in water with DOC.

Additional ecological information:
- AOX information: Product contains no organic halogens.
- NOEC on earthworm: > 1000 mg/l (representative polymer).
- Discharge in minor quantity into adapted biological units of sewage treatment plants is not expected to affect the efficiency of the activated sludge process.

### SECTION 13. DISPOSAL CONSIDERATIONS

If this preparation becomes a waste, the final user must define and assign the appropriate European Waste Catalogue code. Use only authorized contractors. Ensure compliance with EC, national and local regulations.

13.1 Waste treatment methods:

Contact an approved waste hauler for disposal of contaminated recovered material. Any chemical waste is a potential environmental pollutant and is NOT suitable for disposal via ground, municipal sewers, drains, natural streams or rivers. Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

EUROPE WASTE CODE:
16 03 06 - OFF SPECIFICATION BATCHES AND UNUSED PRODUCTS - Organic wastes other than those mentioned in 16 03 05. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code.

### SECTION 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

**LAND TRANSPORT**
- **14.1 UN number:** not applicable
- **14.2 UN proper shipping name:** PRODUCT IS NOT REGULATED DURING TRANSPORTATION
- **14.3 Transport hazard class(es):** not applicable
- **14.4 Packing group:** not applicable
- **14.5 Environmental hazards:** No
- **14.6 Special precautions for user:** not applicable

**AIR TRANSPORT (ICAO/IATA)**
- **14.1 UN number:** not applicable
- **14.2 UN proper shipping name:** PRODUCT IS NOT REGULATED DURING TRANSPORTATION
- **14.3 Transport hazard class(es):** not applicable
- **14.4 Packing group:** not applicable
- **14.5 Environmental hazards:** No
- **14.6 Special precautions for user:** not applicable
MARINE TRANSPORT (IMDG/IMO)

14.1 UN number: not applicable
14.2 UN proper shipping name: PRODUCT IS NOT REGULATED DURING TRANSPORTATION
14.3 Transport hazard class(es): not applicable
14.4 Packing group: not applicable
14.5 Environmental hazards: No
14.6 Special precautions for user: not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: not applicable

SECTION 15. REGULATORY INFORMATION

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

INTERNATIONAL REGULATIONS

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act
When use situations necessitate compliance with FDA regulations, this product is acceptable under: 21 CFR 173.5 Acrylate-Acrylamide Resins, 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

This product may be used as a flocculant in the clarification of beet sugar juice and liquor or cane sugar juice and liquor or corn starch hydrolyzate in an amount not to exceed 5 ppm by weight of the juice or 10 ppm by weight of the liquor or corn starch hydrolyzate. Limitation: For use as an adjuvant in the manufacture of paper and paperboard in an amount not to exceed that necessary to accomplish the technical effect and not to exceed 2 percent (as polymer) by weight of the paper or paperboard.

KOSHER
This product has been certified as KOSHER/PAREVE for year-round use EXCEPT FOR THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

INTERNATIONAL CHEMICAL CONTROL LAWS

EUROPE
Safety Data Sheet according to Regulation (EC) No 1907/2006.

Nalco is committed to and fully supports the Registration, Evaluation, Authorization and restriction of CHemicals (REACH) regulation. It is our intention to pre-register all chemical substances that we manufacture or import into European Union and to work with our suppliers to ensure a smooth transition to this new regulatory environment. Should you require any further information on Nalco's REACH programme please contact us at reach@nalco.com or visit our website.

CANADA
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

UNITED STATES
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

NATIONAL REGULATIONS GERMANY
WGK: 2 (Annex 4)

Nalco Europe Sàrl • Richtistrasse 7 • 8304 Wallisellen, Switzerland
For additional copies of an MSDS visit www.nalco.com and request access.
FEDERAL INSTITUTE FOR RISK ASSESSMENT (BfR) RECOMMENDATION
Acceptable Sections: In compliance with recommendation BfR XXXVI
Limitation Value: 0.10 %
Limit. Value Comment: product based on dry fiber

NATIONAL REGULATIONS HOLLAND

15.2 Chemical Safety Assessment:
No Chemical Safety Assessment has been carried out.

SECTION 16. OTHER INFORMATION

LIST OF RELEVANT R-PHRASES, NOTAS AND HAZARD STATEMENTS IN SECTION 2.1 AND 3
Not applicable

REVISED INFORMATION: section(s): 12

This product Safety Data Sheet provides health, safety, and regulatory information. The information contained in this Safety Data Sheet is based on data available to us at the date of issue, and is provided in good faith, and believed to be accurate and reliable at the date of issue, however, no warranty, express or implied is provided, and Nalco disclaims all liability for reliance on such information. The product is to be used in applications consistent with Nalco’s product literature. For any other uses, exposures should be evaluated so that the appropriate handling practices and training programs can be established to ensure safe working conditions and operations. It is the buyer’s/user’s responsibility to satisfy itself that the product is suitable for the intended use, and to ensure that its activities comply with all federal, state, provincial, or local laws and regulations. Regulatory requirements are subject to change and may differ between European Member States and Nations. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. Please consult your local sales representative for any further information.

REFERENCES


Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The possible key literature references and data sources which may have been used in conjunction with the consideration of expert judgment to compile this Safety Data Sheet: European regulations/directives (including (EC) No. 1907/2006, (EC) No. 1272/2008, 67/548/EEC, 1999/45/EC), supplier data, inter-net, ESIS, IUCLID, ERIcards, Non European official regulatory data and other data sources.

Date issued : 08.10.2012
Version Number : 1.1
Prepared By: SHE Department

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth
Safety Data Sheet according to Regulation (EC) No 1907/2006

Product

OPTIMER® 9901