SAFETY DATA SHEET

EcoVAE® 405 EMULSION

SECTION 1. IDENTIFICATION

Product name : EcoVAE® 405 EMULSION
Product code : 000000000021008177

Manufacturer or supplier’s details
Company name of supplier : Celanese Ltd. Irving Texas
Address : 222 West Las Colinas Boulevard Suite 900N
Irving TX TX 75039
Telephone : '+1 972-443-4000
E-mail address of person responsible for the SDS : HazCom@celanese.com
Emergency telephone : DOMESTIC NORTH AMERICA: 800-424-9300
INTERNATIONAL, CALL +1 703-527-3887 (collect calls accepted)

Recommended use of the chemical and restrictions on use
Recommended use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations
Not a hazardous substance or mixture.

GHS label elements
Not a hazardous substance or mixture.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Water-borne polymer emulsion.

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl Acetate - Ethylene Copolymer</td>
<td>24937-78-8</td>
<td>&gt;= 50 - &lt;= 54</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt;= 43 - &lt;= 47</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice : Remove contaminated, soaked clothing immediately and dispose of safely.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical
advice.
If symptoms persist, call a physician.

In case of skin contact: Wash off with soap and water.
If symptoms persist, call a physician.

In case of eye contact: Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed: None known.

SECTION 5. FIRE-FIGHTING MEASURES

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire.

Hazardous combustion products: Carbon oxides

Further information: The product itself does not burn.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Avoid contact with the skin and the eyes.
Material can create slippery conditions.

Environmental precautions: Do not allow material to contaminate ground water system.
Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion: The product is not flammable.

Advice on safe handling: For personal protection see section 8.
Use only with adequate ventilation.
Do not breathe vapors or spray mist.
Avoid inhalation, ingestion and contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage: Keep tightly closed in a dry and cool place. Protect from frost. To maintain product quality, do not store in heat or direct sunlight. Agitate before use. Electrical installations / working materials must comply with the technological safety standards.

Recommended storage temperature: 5 - 35 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters: Contains no substances with occupational exposure limit values.

Engineering measures: Local exhaust

Personal protective equipment:
- Respiratory protection: No personal respiratory protective equipment normally required.
- Hand protection
- Remarks: Protective gloves
- Eye protection: Safety glasses
- Skin and body protection: Protective suit
- Hygiene measures: General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: liquid
- Color: milky white
- Odor: sweet
- pH: 4 - 5
- Melting point/freezing point: 0 °C
- Boiling point/boiling range: 100 °C
- Flash point: Not applicable
- Flammability (solid, gas): The product is not flammable.
SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical stability: No decomposition if stored and applied as directed.

Possibility of hazardous reactions: Stable under recommended storage conditions. No hazards to be specially mentioned.

Conditions to avoid: Protect from frost, heat and sunlight.

Incompatible materials: Water-reactive substances

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Ingredients:
Water:
Acute oral toxicity: > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Ingredients:
Water:
Genotoxicity in vivo: Dose: 2540

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.
STOT-repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:
Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.
Domestic regulation

TDG
Not regulated as a dangerous good

TDG
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; LC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; ICSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 11/04/2019

The information provided in this Material 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.