



SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): TurboSeal U
Product Description: Waterproofing material
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Risks and Hazards Information: Not Applicable according to Employment and Labor Notice No. 2012-14

GHS Label Elements, including Precautionary Statements

Pictograms: Not Applicable

Signal Words: Not Applicable

Hazard statements: Not Applicable

Precautionary statements

Prevention: Not Applicable

Response: Not Applicable

Storage: Not Applicable

Disposal: Not Applicable

Hazards not otherwise classified

NFPA Grade: Health (0), Fire (No Data Available), Reactivity (No Data Available)

3. COMPOSITION/INFORMATION ON INGREDIENTS

No.	Chemical Name	Common Name/ Synonym	CAS No.	Content (%)
1	Asphalt, sapon. products with tall oil, potassium salts	Asphalt emulsion	68603-82-7	20~30
2	Distillates(petroleum), hydrotreated light paraffinic	Processed oil	64742-55-8	22~35
3	Recycled Rubber (Reclaimed rubber)	No Data	139497-04-4	2~10
4	Calcium carbonate	Calcium Carbonate(1:1) Carbonic Acid, Calcium Salt (1:1)	471-34-1	25~35
5	Bentonite	Dioxosilane Oxo(oxoalumanyloxy) alumane hydrate;monororilonite;Inorganic clay;Bentonite powder	1302-78-9	1~5
6	Ethenylbenzene polymer with 1,3-butadiene	Styrene-butadiene	9003-55-8	5~15
7	Fatty acids, (C=12-18) and (C=18)-unsatd.	Oleic acid	90990-15-1	0.5~3

4. FIRST-AID MEASURES

Eye Contact: In case of eye contact with the material, flush with cold water immediately for more than 20 minutes. Seek medical attention if irritation persists.

Skin Contact: In case of skin contact with the material, flush with cold water immediately for more than 20 minutes. Remove contaminated clothing and shoes. Clothing and shoes must be rinsed thoroughly before reuse. Seek immediate medical attention.

Inhalation: Seek immediate emergency medical attention. Move to fresh air. If breathing is stopped, CPR must be performed. If breathing is irregular, oxygen must be supplied.

Ingestion: Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Note to Physicians: Medical attention should be given by medical personnel who is aware of the material hazards.

5. FIRE-FIGHTING MEASURES

Suitable/Non-suitable Extinguishing Agent: Suitable Extinguishing Media: Dry-Sand, Dry-Chemical Powder, Fire-Fighting Foam, Water Spray, Normal Foam, Carbon Dioxide Extinguisher. Non-Suitable: No Data Available.

Specific Hazards arising from the chemical: Heat, spark, and flame can cause the ignition. Containers may explode when heated. A part can be in flames, but not easily ignite. Emits irritating and toxic fumes under fire conditions. Inhaling material can be hazardous.

Extinguishing Procedure and Equipment: Must wear butyl rubber gloves, footwear, protective clothes, and self-contained breathing apparatus. Dig a ditch for fire extinguisher materials to be locked up and make sure the materials are not dispersed. Move the container from fire area if this can be performed without risk. In case of a tank fire, cool down the tank with plenty of water after extinguishing. In case of a tank fire, immediately step back, if there is a high-pitched noise from the pressure relief device or if the tank discolors. In case of a tank fire, withdraw from the tank in flames.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, protective equipment, and emergency procedures: Remove or avoid any source of ignition. Stop leakage if this can be performed without risk. Please note all materials and conditions to avoid. Ventilate the contaminated area. Never touch or walk on the spilled material. Prevent the formation of dust.

Environmental Precautions: Prevent the spill from entering waterways, sewers, basement, and confined spaces.

Methods for Containment and Cleaning up: In case of small spill(s), flush the contaminated area with the plenty of water. Contain the spill with sand or unrecaptive absorbent materials if callback is impossible. In case of large spill(s), make a ditch far away from the fluid spillage. Contain the spill in a clean and dry container using a clean shovel and close the lid loosely. Remove the container away from the spilled area.

7. HANDLING AND STORAGE

Handling: Be aware of the material and conditions to avoid. Wash thoroughly after handling. Refer to engineering management and personal protective equipment when working. Do not contaminate other materials, and seal when not in use.

Storage: Keep tightly closed. Store the material in a dry cool area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Materials Exposure Standard and Biological Exposure Indices, etc:

Components	Domestic Regulations	ACGIH Regulations	OSHA Regulations	NIOSH Regulations	Biological Exposure Limits (BEI)	Others
Asphalt emulsion	No Data	No Data	No Data	No Data	No Data	No Data Available
Process oil	No Data	No Data	No Data	No Data	No Data	No Data Available
Recycled rubber	No Data	No Data	No Data	No Data	No Data	No Data Available
Calcium carbonate	TWA=10 mg/m ³	No Data	PEL TWA=15 mg/cu m (total dust) ; 5 mg/cu m (respirable)	10hr- TWA=10mg/cu m (total dust); 5mg/cu m (respirable)	No Data	Bulgaria=TWA 10.0 mg/m ³ France=TWA 10 mg/m ³ (VME) Australia=TWA 10mg/m ³ Canada=TWA 10 mg/m ³ Latvia=TWA 6 mg/m ³
Bentonite	No Data	No Data	No Data	No Data	No Data	Bulgaria=TWA 3.0 mg/m ³ China=TWA 6 mg/m ³ (total dust) Czech=TWA 6.0 mg/m ³ (dust) Slovakia=TWA 6 mg/m ³ (total aerosol)
Styrene-butadiene	No Data	No Data	No Data	No Data	No Data	No Data
Oleic acid	No Data	No Data	No Data	No Data	No Data	No Data

Proper Engineering Management: Process isolation or local ventilation should be used. Otherwise the level of air pollutants should be lowered than exposure standard.

Personal Protective Equipment

Respiratory: Not required under everyday conditions. Use adequate protective respiratory filter device in a closed area with insufficient ventilation. For particular matter, the following respiratory protections are recommended: Anti-vibration masks with face-lift or air-vaporative dust masks (high-efficiency particulate filter) or dust masks with electric fans (dust, mist, and fume filter). When oxygen is low (<19.5%), wear air supplied respirator or self-contained breathing apparatus.

Eye: Not required under everyday conditions. Wear protective goggles when direct contact to eyes is expected.

Hand: Not required under everyday conditions. Wear appropriate chemical-resistant protective gloves when direct contact to hands is expected.

Skin: Not required under everyday conditions. Wear appropriate protective clothes when direct contact to skin is expected.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gel

Odor: Mild odor

pH: 7.5 – 8.0

Initial Boiling Point and Range: No Data

Evaporation Rate: No Data

Lower & upper Explosive Limits: No Data

Solubility: No Data

Relative Density: > 1.0

Auto-Ignition Temp.: Do not ignite below 400°C

Viscosity: ≥300,000 cps (20°C)

Color: Black

Odor Threshold: No Data

Melting/freezing Point: No Data

Flash Point: Non-flammable under 300°C

Flammability (solid, gas): No Data

Vapor Pressure: No Data

Vapor Density: No Data

n-Octanol / Water Partition Coefficient: No Data

Decomposition Temperature: No Data

Molecular Weight: No Data

10. STABILITY AND REACTIVITY

Chemical Stability/Possibility of Hazardous reactions: Stable under normal conditions of storage and use. Hazardous decomposition products should not be produced as well.

Conditions to Avoid: (Electrostatic Discharge, Shock, Vibration, etc.): Ignition Source such as Heat, Spark, Flame

Materials to Avoid: Combustible Materials

Hazardous Decomposition Products: Irritative and Toxic Gas

11. TOXICOLOGICAL INFORMATION

Information on the Routes of Exposure in High Possibilities

Inhalation Toxicity: Unpleasant due to the odor

Skin Toxicity: Lightly irritating when continuously and repeatedly contacted

Eye Toxicity: Not toxic, but hazardous for adhesiveness

Ingestion Toxicity: Not Applicable

Health Hazardous Information

Acute Toxicity (Every Exposure Routes)

Oral: Unclassified

Processed oil: RAT, LD50 >5,000mg/kg

Calcium carbonate: RAT, LD50 >2,000mg/kg (OECD Guideline 420, GLP)

Bentonite: RAT, LD50 > 5,000mg/kg

Styrene-butadiene: LD50 > 2,000mg/kg

Oleic acid: RAT, LD50 =12,600mg/kg

Dermal: Unclassified

Calcium carbonate: LD50 > 2,000mg/kg (OECD Guideline 402, GLP)

Oleic acid: LD50 =21,900mg/kg

Inhalation: Unclassified

Calcium carbonate: RAT, LC50 > 3 mg/L/4 hr (OECD Guideline 403, GLP)

Bentonite: RAT, LC50 > 200mg/L

Skin Corrosion/ Irritation: Unclassified

Asphalt emulsion: Clinical trials show that symptoms quickly disappear when the exposure is stopped, however does not disappear with continual exposure.

Processed oil: Continuous and repetitive contact will cause light irritation.

Calcium carbonate: According to the result of animal testing done on rabbits, unstimulated (OECD Guideline 404, GLP).

Bentonite: According to the result of animal testing done on rabbits, light irritation.

Styrene-butadiene: Unstimulated

Severe Eye Damage/ Irritation: Unclassified

Respiratory Hypersensitiveness: Unclassified

Dermal Hypersensitivity: Unclassified

Asphalt emulsion: Some object may cause skin sensitization due to the use of petroleum products or additives for petroleum products.

Calcium carbonate: Testing results of regional lymph nodes done on mice (LLAN), non- sensitizing (OECD Guideline 429, GLP).

Oleic acid: According to the result of animal testing done on rabbits, unstimulated.

Carcinogenicity: Unclassified

	OSHA	IARC	NTP	EU Regulation 1272/2008	ACGIH
Asphalt emulsion	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Process oil	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Recycled rubber	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Calcium carbonate	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Bentonite	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Styrene-butadiene	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Oleic acid	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

Mutagenicity: Unclassified

Calcium carbonate: *in vitro* (human lymphocytes test (OECD Guideline 473 , GLP), bacterial mutation test (OECD Guideline 471, GLP) test results, negative

Bentonite: *in vitro* (Ames test) test results, negative

Oleic acid: *in vitro* (Ames test) test results, negative

Reproductive Toxicity: Unclassified

Calcium carbonate: Based on reproductive toxicity test results targeting RAT, test substance - related to reproductive toxicity effects related to the test substance was not observed and it was NOEL=1000mg/kg bw/day (OECD Guideline 422, GLP)

Specific Targeted Organ Toxicity (Single Exposure): Unclassified

Calcium carbonate: According to the results of oral toxicity test targeting RAT, no effect has been observed (OECD Guideline 420, GLP)

Bentonite: If aggravated by exposure, it may cause respiratory disorders

Specific Targeted Organ Toxicity (Repeated Exposure): Unclassified

Calcium carbonate: According to the 48 days of repeated oral toxicity test results targeting RAT, no adverse effects observed, and it was NOAEL=1000mg/kg bw/day (OECD Guideline 422, GLP)

Bentonite: According to the results of the test targeting RAT, no major effect was observed

Inhalation Hazardous: No Data Available

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity

Acute toxicity: Unclassified

Chronic toxicity: Unclassified

Fish:

Calcium carbonate: 96hr-LC50(Oncorhynchus mykiss) > 100mg/L (OECD Guideline 203, GLP)

Bentonite: 96hr-LC50(Salmo gairdneri) = 8,000 ~ 19,000mg/L

Styrene-butadiene: 96hr-LC50(Brown shrimp) > 10,000mg/L

Oleic acid: 96hr-LC50(Rainbow trout) = 54,000mg/L

Crustacean:

Calcium carbonate: 48hr-EC50(Daphnia magna) > 100mg/L (OECD Guideline 202, GLP)

Bentonite: 48hr-LC50=15.208mg/L

Birds:

Calcium carbonate: 72hr-EC50(Desmodemus subspicatus) > 14mg/L (growth rate, OECD Guideline 201, GLP)

Bentonite: 96hr-EC50 = 22.391mg/L

Oleic acid: 96hr-LC50 = 77,712mg/L

Persistence and Degradability

Persistence:

Bentonite: Log Kow is less than 4, so it is expected to have low persistency (Log Kow=1.28)

Oleic acid: Log Kow is less than 4, so it is expected to have low persistency (Log Kow=1.76)

Degradability: No Data Available

Bioaccumulative Potential

Bioaccumulation: No Data Available

Biodegradability:

Processed Oil: Does not biodegrade immediately but has specific biodegradability according to the OECD Guidelines.

Oleic acid: It biodegrades well, so the potential of being bioaccumulated is low (63% of biodegradability after 14 days).

Soil Mobility: No Data Available

Other Possible Ecotoxicity: No Data Available

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Disposal Methods: Waste must be disposed of in accordance with federal, state, and local environmental control regulation, if stated in the Wastes Control Acts.

Cautions for Disposal: According to the laws set forth. Dispose of contents and container. Incinerate in an appropriate incinerator. Must be disposed at an authorized landfill. Comply refining standard in accordance with the Wastes Control Acts.

14. TRANSPORT INFORMATION (non-mandatory)

UN Number: Not Applicable. UN Classification no information on hazardous substances

UN Proper Shipping Name: Not Applicable

Hazard Class in Transportation: Not Applicable

Packing (If applicable): Not Applicable

Marine Pollution (Note as Applicable or Not Applicable): Not Applicable

Any Special Safety Measures that must be noted in relation to Transportation or Transportation Methods

Emergency Measure for Fire: Not Applicable

Emergency Measure for Spill: Not Applicable

Transportation Precautions: Avoid Physical Shock

15. REGULATORY INFORMATION (non-mandatory)

Regulations by Occupational Safety and Health Acts:

Calcium carbonate: Material with exposure standards

Regulations by Toxic Chemicals Control Acts:

Processed oil: Existing Chemical Substances (KE-12553)

Recycled rubber: Existing Chemical Substances (KE-30113)

Calcium carbonate: Existing Chemical Substances (KE-04487)

Bentonite: Existing Chemical Substances (KE-02119)

Styrene-butadiene: Existing Chemical Substances (KE-13258)

Oleic acid: Existing Chemical Substances (KE-14253)

Regulations by Safety Control of Dangerous Substances Acts:

Calcium carbonate: Non- hazardous

Bentonite: Non- hazardous

Regulations by Wastes Control Acts:

Processed oil: Designated waste

Bentonite: Designated waste

Regulations by other domestic and foreign laws

Persistent Organic Pollutants Control Acts: Not Applicable

EU Taxonomy

Classified Result: Processed oil: Carc. Cat. 2; R45

Hazardous Phrase: Processed oil: R45

Precautionary Phrase: Processed oil: S53 S45

United States

OSHA Regulation (29CFR1910.119): Not Regulated

CERCLA 103 Regulation (40CFR302.4): Not Regulated

EPCRA 302 Regulation (40CFR355.30): Not Regulated

EPCRA 304 Regulation (40CFR355.40): Not Regulated

EPCRA 313 Regulation (40CFR372.65): Not Regulated

Rotterdam Convention Material: Not Regulated

Stockholm Convention Material: Not Regulated

Montreal Protocol Material: Not Regulated

Other Regulations

Asphalt Emulsion:

United States Management Information: Section 8(b) Inventory (TSCA): Present

Australian Management Information: Inventory of Chemical Substances (AICS): Present

European Management Information: European List of Notified Chemical Substances (ELINCS): Present (EC No.271-674-3)

Processed Oil:

United States Management Information: Section 8(b) Inventory (TSCA): Present

European Management Information: European List of Notified Chemical Substances (ELINCS): Present (EC No. 265-158-7)

Japan Management Information: Existing and New Chemical Substances (ENCS): (9)-1692

China Management Information: Inventory of Existing Chemical Substances (ECSC): Present [16661]

Canadian Management Information: Domestic Substances List (DSL): Present
Australian Management Information: Inventory of Chemical Substances (AICS): Present
New Zealand Management Information Inventory of Chemicals (NZIoC): Can be used as a single component according to the appropriate group standard

Philippine Management Information: Inventory of Chemicals and Chemical Substances (PICCS): Present

Recycled Rubber:

United States Management Information: Section 8(b) Inventory (TSCA): Present

China Management Information: Inventory of Existing Chemical Substances (IECSC): Present [41247]

Japan Management Information: Existing and New Chemical Substances (ENCS): (8)-584

Calcium Carbonate:

United States Management Information: Section 8(b) Inventory (TSCA): Present

European Management Information: European List of Notified Chemical Substances (ELINCS): Present (EC No.207-439-9)

Japan Management Information: Existing and New Chemical Substances (ENCS): (1)-122

China Management Information: Inventory of Existing Chemical Substances (IECSC): Present (34102)

Canadian Management Information: Domestic Substances List (DSL): Present

Australian Management Information: Inventory of Chemical Substances (AICS): Present

New Zealand Management Information Inventory of Chemicals (NZIoC): HSNO Approval: HSR006678

Philippine Management Information: Inventory of Chemicals and Chemical Substances (PICCS): Present

Bentonite:

United States Management Information: Section 8(b) Inventory (TSCA): Present

European Management Information European Inventory of Existing Commercial Chemical Substances (EINECS): Present (EC No. 215-108-5)

China Management Information: Inventory of Existing Chemical Substances (IECSC): Present [25598]

Canadian Management Information: Domestic Substances List (DSL): Present

Australian Management Information: Inventory of Chemical Substances (AICS): Present

New Zealand Management Information Inventory of Chemicals (NZIoC): Can be used as a single component according to the appropriate group standard

Philippine Management Information: Inventory of Chemicals and Chemical Substances (PICCS): Present

Styrene-butadiene:

United States Management Information: Section 8(b) Inventory (TSCA): Present [XU]

Japan Management Information: Existing and New Chemical Substances (ENCS): (6)-134; (6)-1623

China Management Information: Inventory of Existing Chemical Substances (IECSC): Present [05854]

Canadian Management Information: Domestic Substances List (DSL): Present

Australian Management Information: Inventory of Chemical Substances (AICS): Present

New Zealand Management Information Inventory of Chemicals (NZIoC): Can be used as a single component according to the appropriate group standard

Philippine Management Information: Inventory of Chemicals and Chemical Substances (PICCS): Present

Oleic acid:

European Management Information European Inventory of Existing Commercial Chemical Substances (EINECS): Present (EC No. 292-776-4)

China Management Information: Inventory of Existing Chemical Substances (IECSC): Present [04849]

New Zealand Management Information Inventory of Chemicals (NZIoC): Can be used as a single component according to the appropriate group standard

Philippine Management Information: Inventory of Chemicals and Chemical Substances (PICCS): Present

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as 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 material or in any process, unless specified in the text.