



SAFETY DATA SHEET

Creation Date 31-May-1999

Revision Date 18-Nov-2015

Version 2

1. IDENTIFICATION

Product Name TruLo® Asphalt

Synonyms TruLo® Max (Type 1,2,3 & 4)
TruLo® Lo Odor Asphalt (Type 1, 2, 3, 4 or Type I, II, III, IV), Built up roofing asphalt
BURA

Product Code OCRA00020

Recommended Use For use in built-up roof construction, construction of some modified bitumen systems, construction of bituminous water retarder systems, for adhering fleece backed single ply roof membranes, and for adhering insulation boards used in various types of roof systems

UN/ID no. UN3257

Manufacturer Address Owens Corning Roofing and Asphalt, LLC
One Owens Corning Parkway
Toledo, Ohio 43659

Company Phone Number 1-800-GET-PINK or 1-800-438-7465
24 Hour Emergency Phone Number Chemtrec 1-800-424-9300
Emergency Telephone 1-419-248-5330 (after 5 pm ET and weekends)

E-mail address safetydatasheet@owenscorning.com
Company Website <http://owenscorning.com/>

2. HAZARDS IDENTIFICATION

OSHA Regulatory Status This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|-------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Carcinogenicity | Category 1B |

Label elements

Danger

Hazard statements

Causes skin irritation
Causes serious eye irritation
May cause cancer



Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response Eyes

If exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage Store locked up

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

- Contact with product at elevated temperatures can result in thermal burns
- Dangerous amounts of Hydrogen Sulfide, a highly toxic gas, may be present in the headspace of heated containers.
- This petroleum based product may contain trace amounts of polycyclic aromatic compounds (PACs) including polynuclear aromatic hydrocarbons (PAHs) which can be released when product is heated.

Unknown acute toxicity

- No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

OSHA Hazard Classification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Components

| Chemical Name | CAS No. | Weight-% | Trade Secret |
|-------------------------------|-------------|----------|--------------|
| Asphalt, oxidized (roofing) | 64742-93-4 | 87-100 | * |
| Re-Refined Engine Oil Bottoms | 129893-17-0 | 0-13 | * |

• *The exact percentage (concentration) of composition has been withheld as a trade secret

Comments

The remaining components of this product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure. These components contain no substances or impurities which would influence the classification of this product.

4. FIRST AID MEASURES

Description of First Aid Measures

Eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
- If eye irritation persists: Get medical advice/attention

| | |
|--|--|
| Skin contact | <ul style="list-style-type: none"> • HOT MATERIAL: • Immediately drench or immerse area in water to assist in cooling. • Apply iced water or ice packs to burned area. • DO NOT use iced water or ice packs if the burned area covers more than 10% of the body, as this may contribute to shock. • DO NOT try to remove product from burned area after it has cooled. • Seek immediate medical attention/advice • Medical personnel can soften and remove cooled product with petroleum jelly or mineral oil. • COLD MATERIAL: • Clean exposed skin with mild soap and water. • If skin irritation persists, call a physician |
| Inhalation | <ul style="list-style-type: none"> • If respiratory symptoms develop, move victim to fresh air away from source of exposure and into fresh air. • If symptoms persist, call a physician • If breathing is difficult, give oxygen • If breathing has stopped, give artificial respiration. Get medical attention immediately |
| Ingestion | <ul style="list-style-type: none"> • DO NOT induce vomiting • Drink 1 or 2 glasses of water • If vomiting occurs naturally have the person lean forward to reduce the risk of aspiration. • Get medical attention |
| Most important symptoms and effects, both acute and delayed | <ul style="list-style-type: none"> • Irritation nose and throat • Irritation of eyes and mucous membranes • Skin irritation • Unconsciousness • Corneal damage • Narcosis • Decrease in motor functions • Behavioral changes • Edema • Conjunctivitis • Defatting of skin • Rash, |
| Note to physicians | Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| Suitable extinguishing media | <ul style="list-style-type: none"> • Treat as fuel oil or hydrocarbon fire. • Use extinguishing measures that are appropriate to local circumstances and the surrounding environment • Dry chemical • Foam • Carbon dioxide (CO₂) • Use water spray or fog; do not use straight streams • Use water to cool fire-exposed containers and to protect personnel. |
| Unsuitable extinguishing media | <ul style="list-style-type: none"> • Do not use a solid water stream as it may scatter and spread fire |
| Specific hazards arising from the chemical | <ul style="list-style-type: none"> • Hot product may ignite flammable materials on contact. |
| Hazardous combustion products | <ul style="list-style-type: none"> • Carbon monoxide • Carbon dioxide (CO₂) • Oxides of sulfur • Hydrogen sulfide |

Explosion data

- Sensitivity to Mechanical Impact** • No data available
- Sensitivity to Static Discharge** • No data available

Protective equipment and precautions for firefighters

- As in any fire, wear self-contained breathing apparatus (positive-pressure), MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

- Avoid contact with eyes and skin
- Evacuate personnel to safe areas

Environmental precautions

- Prevent further leakage or spillage if safe to do so
- Avoid runoff into storm sewers, ditches and waterways.
- See Section 12 for additional ecological information

Methods and material for containment and cleaning up**Methods for containment**

- Contain spill with an inert absorbent material such as soil, sand or oil dry.
- Prevent from spreading by covering, diking or other means.

Methods for cleaning up

- Use personal protective equipment as required
- Take up mechanically, placing in appropriate containers for disposal
- Clean contaminated surface thoroughly
- Dam up
- Cover liquid spill with sand, earth or other non-combustible absorbent material

7. HANDLING AND STORAGE**Precautions for safe handling**

- Handle in accordance with good industrial hygiene and safety practice
- Hydrogen sulfide, an extremely flammable, colorless, highly toxic gas is emitted from heated asphalt and may accumulate in storage tanks or bulk transport containers.
- Avoid contact with skin, eyes or clothing
- Avoid breathing fumes from hot material

Conditions for safe storage, including any incompatibilities**Storage Conditions**

- Keep in a dry, cool and well-ventilated place
- Assure proper ventilation of storage or shipping containers to prevent accumulations of hazardous concentrations of off-gassed hydrocarbon gas or H₂S

Incompatible materials

- Strong oxidizing agents
- Water

Other Information

Heating - Correct application temperature is Equivocous Temperature (EVT) which is the temperature that the asphalt in the mop bucket or mechanical spreader must be at to achieve asphalt consistency or viscosity necessary to ensure that the correct amount of asphalt is applied to the roof. Minimize temperature to which product is heated in the kettle to obtain EVT during application in order to maintain quality of installed material and reduce hazard from fumes, hydrogen sulfide, kettle cooking and kettle flashes. Maximum kettle temperature should be 25°F less than flashpoint to control generation of fumes and to avoid possible explosion hazard but the product should never be heated over 550°F regardless of flashpoint.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
|-------------------------------|--|---|---|
| Hydrogen sulfide 7783-06-4 | STEL: 5 ppm TWA: 1 ppm | (vacated) TWA: 10 ppm (vacated) TWA: 14 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 21 mg/m ³ Ceiling: 20 ppm | IDLH: 100 ppm Ceiling: 10 ppm 10 min Ceiling: 15 mg/m ³ 10 min |
| Asphalt Fume 8052-42-4 | TWA: 0.5 mg/m ³ benzene soluble aerosol fume, inhalable fraction | - | Ceiling: 5 mg/m ³ fume 15 min |

NIOSH REL Recommended Exposure Limit Immediately Dangerous to Life or Health

Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering Controls

Follow NIOSH guidelines for controlling exposure to fumes that are found in Asphalt Fume Exposures During the Application of Hot Asphalt to Roofs DHHS (NIOSH) Publication No. 2003-112 (June 2003). These include:

1. Use fume suppressing asphalt (TruLo® Max) or kettles with afterburner or kettle loading systems when feasible,
2. Use kettles of appropriate size for the job,
3. Make sure lids fit tightly, close the lid when asphalt is not being added and minimize the number of times that the lid must be opened,
4. Chop the kegs into easy-to-handle pieces before opening lid to reduce time it is open,
5. Place the kettle downwind from workers, and with lid facing away from building,
6. Place the kettle away from air intake vents, doors and windows,
7. Restrict access to the area around kettle,
8. Calibrate kettle thermometers and thermostats at least monthly, and
9. Adhere to EVT's at point of application and use insulated kettles and piping to minimize the kettle temperature needed to achieve the application EVT.

Individual protection measures, such as personal protective equipment

Eye/face protection

- Wear safety glasses with side shields (or goggles)
- Wear face shield if splash hazard exist.

Skin and body protection

- Wear protective gloves (heat insulated, leather, lined neoprene coated gloves are recommended when working with hot product).
- Wear long sleeved shirt and long pants (cotton or other thermal protective material is recommended).

Respiratory protection

- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators in accordance with their company's respiratory protection program, local regulations or 29 CFR 1910.134.
- If irritation occurs, wear an air purifying respirator with particulate and organic vapor cartridges.
- Supplied air respirators or self-contained breathing apparatus should be used when concentrations of hydrogen sulfide exceeds the occupational exposure limit.

General Hygiene Considerations

- Avoid contact with skin, eyes and clothing.
- Wash exposed areas thoroughly after handling this product.
- Wash hands and arms frequently.
- Shower after exposure.
- Wash work clothes when soiled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Solid - in cartons
Liquid - in bulk and heated

Odor

Petroleum

Color

brown, Black

Boiling point / boiling range

>= 538 °C / 1000 °F

Flash point

> 302 °C / > 575 °F Cleveland Open Cup

Vapor pressure @20 °C (kPa) 3 mm Hg @ 20°C
 Water solubility Insoluble in water
 Autoignition temperature >=343 °C / >=649 °F

10. STABILITY AND REACTIVITY

Reactivity • No data available

Chemical stability • Stable under normal conditions

Possibility of Hazardous Reactions • Hazardous polymerization does not occur

Conditions to avoid • Heat, flames and sparks
 • Keep from possible contact with water when product is in liquid state.

Incompatible materials • Strong oxidizing agents
 • Water

Hazardous Decomposition Products • Carbon dioxide (CO2)
 • Carbon monoxide
 • Combustion products may include sulfur oxides and hydrogen sulfide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information • Harmful by inhalation
 • Harmful by skin contact
 • Harmful if swallowed

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|----------------------|-------------------------|-------------------------|
| Asphalt, oxidized (roofing) 64742-93-4 | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | - |
| Hydrogen sulfide 7783-06-4 | - | - | = 0.99 mg/L (Rat) 1 h |
| Asphalt Fume 8052-42-4 | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Immediate Health Effects: Inhalation of vapors, fumes and/or mist may cause nose, throat, and mucous membrane irritation, and nausea, headaches or dizziness, and central nervous system depression, including drowsiness, loss of coordination, and unconsciousness. Eye contact may cause severe irritation, redness, tearing, and blurred vision. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis that can be fatal. See Section 8 for exposure controls.

Delayed Health Effects Prolonged or repeated skin contact may result in dryness and irritation of the skin. Prolonged contact with clothing saturated in petroleum distillates can cause second degree burns. Long term skin exposure to asphalt can increase sensitivity to the sun, and may cause discoloration.

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------|-------|------|-----|------|
|---------------|-------|------|-----|------|

| | | | | |
|---|----|----------|---|---|
| Asphalt, oxidized (roofing) 64742-93-4 | A4 | Group 2A | - | X |
|---|----|----------|---|---|

ACGIH (American Conference of Governmental Industrial Hygienists)
 A4 - Not Classifiable as a Human Carcinogen
 IARC (International Agency for Research on Cancer)
 Group 2A - Probably Carcinogenic to Humans
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

Carcinogen

- In October 2011, the International Agency for Research on Cancer (IARC) classified occupational exposures to oxidized bitumen (asphalt) and their emissions during roofing as being probably carcinogenic to humans (Group 2 A). 'The Working Group concluded that there was 'limited evidence' in humans for the carcinogenicity of occupational exposures to bitumens and bitumen emissions during roofing. In experimental animals there was 'limited evidence' of carcinogenicity for oxidized bitumens (Class 2), which are mainly used in roofing, and 'sufficient evidence' of carcinogenicity for fume condensates of these oxidized bitumens.' Lancet Oncology, Vol 12, December 2011. Based on a 2000 review of health effects literature, NIOSH concluded that roofing asphalt fumes are a potential occupational carcinogen.
- This petroleum based product contains a variable amount of polycyclic aromatic compounds (PACs) including polynuclear aromatic hydrocarbons (PAHs) which have been shown to cause cancer and respiratory damage in humans and laboratory animals.

Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Aspiration hazard

No information available.
 No information available.
 No information available.
 No information available.
 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity • Harmful to aquatic life with long lasting effects

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|--|---|---|
| Asphalt, oxidized (roofing) 64742-93-4 | 56: 72 h Pseudokirchneriella subcapitata mg/L EC50 | - | - |
| Hydrogen sulfide 7783-06-4 | - | 0.0448: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.016: 96 h Pimephales promelas mg/L LC50 flow-through | 0.022: 96 h Gammarus pseudolimnaeus mg/L LC50 |

Persistence and degradability • No information available

Bioaccumulation • No information available

| Chemical Name | Partition coefficient |
|-------------------------------|-----------------------|
| Hydrogen sulfide 7783-06-4 | 0.45 |
| Asphalt Fume 8052-42-4 | 6 |

Other adverse effects • No information available

13. DISPOSAL CONSIDERATIONS

Disposal of wastes • Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging • Do not reuse container

US EPA Waste Number U018 U050 U135

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------------|------|---------------------------|------------------------|------------------------|
| Polycyclic Aromatic | - | Included in waste stream: | - | - |

| | | | | |
|-------------------------------|------|------|---|------|
| Hydrocarbons 130498-29-2 | | K022 | | |
| Hydrogen sulfide 7783-06-4 | U135 | - | - | U135 |

14. TRANSPORT INFORMATION

Note:

- Non-bulk containers of solid material are not regulated.
- Material heated at or above 100°C/212°F is regulated.

DOT

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point 9
Hazard Class 9
Packing Group III
Special Provisions IB1, T3, TP3, TP29
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (<TND>), 9, III
Emergency Response Guide Number 128

TDG

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point 9
Hazard Class 9
Packing Group III
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III

MEX

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point 9
Hazard Class 9
Packing Group III
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III

ICAO (air) Forbidden Not regulated

IATA Forbidden Not regulated

IMDG

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s.*
Hazard Class 9
Packing Group III
EmS-No. F-A, S-P
Special Provisions 232, 274
Description UN3257, Elevated temperature liquid, n.o.s.*, 9, III

RID

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point 9
Hazard Class 9
Packing Group III
Classification code M9
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III
Labels 9

ADR

UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class 9
Packing Group III
Classification code M9
Tunnel restriction code (D)
Special Provisions 274, 643
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III, (D)
Labels 9

ADN

Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class 9
Packing Group III
Classification code M9
Special Provisions 274, 580, 643
Description UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III
Hazard label(s) 9
Limited quantity (LQ) 0

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---|------|-----|------|--------|--------|------|-------|------|-------|------|
| Asphalt, oxidized (roofing) 64742-93-4 | X | X | | X | | X | X | X | X | X |
| Re-Refined Engine Oil Bottoms 129893-17-0 | X | X | | | | | | | | |

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|---|-------------------------------|
| Re-Refined Engine Oil Bottoms - 129893-17-0 | 1.0 |

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Hydrogen sulfide 7783-06-4 | 100 lb | - | - | X |

CERCLA

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|-------------------------------|--------------------------|----------------|---|
| Hydrogen sulfide 7783-06-4 | 100 lb | 100 lb | RQ 100 lb final RQ RQ 45.4 kg final RQ |

US State Regulations**California Proposition 65**

WARNING! This product contains a chemical known in the State of California to cause cancer

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Asphalt, oxidized (roofing) 64742-93-4 | X | - | - |
| Re-Refined Engine Oil Bottoms 129893-17-0 | X | - | X |
| Polycyclic Aromatic Hydrocarbons 130498-29-2 | X | - | X |
| Hydrogen sulfide 7783-06-4 | X | X | X |
| Asphalt Fume 8052-42-4 | X | X | X |

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | |
|----------------------|---|
| Creation Date | 31-May-1999 |
| Revision Date | 18-Nov-2015 |
| Revision Note | This Safety Data Sheet replaces the Material Safety Data Sheet numbered 24889. Changes include new format to meet US OSHA HAZCOM 2012 requirements |

Disclaimer

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

End of Safety Data Sheet