

According to 190/2006/EC (REACH), 1272/2008/EC (CLP) and GHS

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Revision -

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

1.1 PRODUCT IDENTIFIER/TRADE NAME:

STAR-TRITON SUPREME SUPREME

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

No further relevant information available.

Application of the Substance / the Mixture: Sealcoating for Pavements

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Manufacturer/Supplier: Specialty Technology And Research, Incorporated (S.T.A.R., Inc.)
1150 Milepost Drive, Columbus, Ohio 43228
Tel: +1-614-870-0744 • Fax: +1-614-870-0598 • Toll Free +1-800-759-1912
Web Site: www.starseal.com

1.4 EMERGENCY TELEPHONE NUMBER:

ChemTel, Inc.
(800)255-3924, +1(813)248-0585

SECTION 2 HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

The following classifications are applicable only to the general GHS regulations and not the Specific CLP regulation: H360

The following hazard statements are applicable only to the EU regulations and not the US GHS regulation: H360FD, H400, H410

Repr. 1 H360: May damage fertility of the unborn child



Health Hazard

| | | | |
|-------|----|--------|--|
| Muta. | 1B | H340 | May cause genetic defects. |
| Carc. | 1B | H350 | May cause cancer. |
| Repr. | 1B | H360FD | May damage fertility. May damage the unborn child. |



Environment

| | | | |
|-----------------|---|------|---|
| Aquatic Chronic | 1 | H411 | Toxic to aquatic life with long lasting effects |
|-----------------|---|------|---|



| | | | |
|------------|---|------|--------------------------------------|
| Skin Sens. | 1 | H317 | May cause an allergic skin reaction. |
|------------|---|------|--------------------------------------|

CLASSIFICATION ACCORDING TO DIRECTIVE 67/548/ECC or DIRECTIVE 1999/45/EC

T; Toxic
R45-46-60-61: May cause cancer. May cause heritable genetic damage. May impair fertility.
May cause harm to the unborn child.



Xi; Sensitizing
R43 Irritating to skin. May cause sensitization by skin contact.



N; Dangerous to the environment
R50/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment..

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label Elements**Labeling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the Globally Harmonized System (GHS).



GHS07 GHS08 GHS09

Signal word Danger

Hazard-determining components of labeling:

Residues (Petroleum steam-cracked.
benzo[a]pyrene

Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H360FD, H410.

The following Hazard Statements are applicable only to the general GHS regulations and not the specific CLP regulation: H360.

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H360FD May damage fertility. May damage the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to environment.
P261 Avoid breathing mist/vapors/spray.
P281 Use personal protective equipment as required.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 If exposed or concerned: Get medical advice/attention.
P303+P330+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin well with water/shower.

P301+P330+P351 IF SWALLOWED, rinse mouth. DO NOT induce vomiting.
P305+P351+P333 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378 In case of fire: Use for extinction: CO2, Powder. Do not use water.
P403+P233 Store in a well-ventilated place. Keep containers tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Restricted to professional users.

Hazard description:

WHMIS-symbols:

D2A - Very toxic material causing other toxic effects



2.3 Other Hazards

Results of PBT and vPvB assessment

PBT-Not Applicable

vPvB: Not applicable.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance- Not applicable

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions

Dangerous components:

| | | |
|---|--|----------------|
| CAS: 64742-90-1 | Residue, Petroleum, Steam-cracked PBT ☠ T Carc. Cat. 2 R45 ☠ Carc. 1B, H350 | 20-30% |
| CAS: 1332-58-7 EC number: 310-194-1 | Kaolin substance with a Community workplace exposure limit | 15-20% |
| CAS: 14808-60-7 | quartz substance with a Community workplace exposure limit | 3-7% |
| CAS: 91-20-3 EINECS: 202-049-5 Index number: 601-052-00-2 | naphthalene ☠ Xn R22-40; ☠ N R50/53 Carc. Cat. 3 ☠ Carc. 2, H351 ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ☠ Acute Tox. 4, H302 | Less than 0.1% |
| CAS: 50-32-8 EINECS: 200-028-5 Index number: 601-032-00-3 | benzo[a]pyrene ☠ T Carc. Cat. 2, Muta. Cat. 2, Repr. Cat. 2 R45-46-60-61; ☠ Xi R43; ☠ N R50/53 ☠ Muta. 1B, H340; Carc. 1B, H350; Repr. 1B, H360FD ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 | Less than 0.1% |

⚠ Skin Sens. 1, H317

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4

FIRST AID MEASURES

4.1 Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation:

Supply fresh air; consult a doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.

After skin contact:

Do not pull solidified product off the skin.
Immediately wash with water and soap and rinse thoroughly.
Remove any clothing soiled by the product.
If skin irritation continues, consult a doctor.

After eye contact:

Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions
Slight irritant effect on skin and mucous membranes.
Slight irritant effect on eyes.
Gastric or intestinal disorders.

Hazards

Carcinogenic.
May damage fertility or the unborn child.
Possible risk of irreversible effects.

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed, gastric irrigation with added, activated carbon.
May produce a nephrotoxic / hepatotoxic effect.
Contains benzo[a]pyrene. May produce an allergic reaction.

SECTION 5

FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information No further relevant information available

SECTION 6

ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Particular danger of slipping on leaked/spilled product.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
Send for recovery or disposal in suitable receptacles.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7

HANDLING AND STORAGE

7.1 Precautions for safe handling

Use only in well ventilated areas.
Open and handle receptacle with care.
Prevent formation of aerosols.

Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Keep out of the reach of children. Keep in tightly closed containers.

Information about storage in one common storage facility:

Store away from foodstuffs.
Store away from oxidizing agents.
Do not store together with acids.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.
Protect from frost.

7.3 Specific end use(s) No further relevant information available.



SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

| | |
|--|--|
| Ingredients with limit values that require monitoring at the workplace: | |
| 50-32-8 benzo[a]pyrene | |
| PEL (USA) | Long-term value: 0.2 mg/m ³ see Coal tar pitch volatiles |
| ACGIH (USA) – ACGIH TWA (mg/m ³) - Not Applicable | |

DNELs No further relevant information available.
PNECs No further relevant information available.

| | |
|-------------------------|---|
| 1332-58-7 Kaolin | |
| PEL (USA) | Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction |
| REL (USA) | Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction |
| TLV (USA) | Long-term value: 2* mg/m ³ E; as respirable fraction |
| EL (Canada) | Long-term value: 2 mg/m ³ |
| EV (Canada) | Long-term value: 2(D) mg/m ³ respirable |

| | |
|--------------------------|---|
| 14808-60-7 quartz | |
| PEL(USA) | see Quartz listing |
| REL (USA) | Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A |
| TLV (USA) | Long-term value: 0.025* mg/m ³ *as respirable fraction |
| EL (Canada) | Long-term value: 0.025 mg/m ³ ACGIH A2; IARC 1 |
| EV (Canada) | Long-term value: 0.10* mg/m ³ *respirable fraction |

| | |
|----------------------------|---|
| 91-20-3 naphthalene | |
| IOELV (EU) | Long-term value: 30 mg/m ³ , 10 ppm |
| PEL (USA) | Long-term value: 50 mg/m ³ , 10 ppm |
| REL (USA) | Short-term value: 75 mg/m ³ , 15 ppm Long-term value: 50 mg/m ³ , 10 ppm |
| TLV (USA) | Long-term value: 52 mg/m ³ , 10 ppm Skin; BEI |
| EL (Canada) | Short-term value: 15 ppm Long-term value: 10 ppm Skin; IARC 2B |
| EV (Canada) | Short-term value: 78 mg/m ³ , 15 ppm Long-term value: 52 mg/m ³ , 10 ppm |
| TLV (USA) | L, BEIp |
| EL (Canada) | IARC 2B |

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Respiratory protection:

Not required under normal conditions of use.

Use suitable respiratory protective device when aerosol or mist is formed.

Use suitable respiratory protective device in case of insufficient ventilation.

For spills, respiratory protection may be advisable.

Protection of hands:

Protective gloves



The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses



Body protection:

Protective work clothing

Limitation and supervision of exposure into the environment

No further relevant information available.

Risk management measures

See Section 7 for additional information.

8.3 Other Information: No further relevant information available.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information:

Appearance:

Form Heavy Bodied Semi-Fluid Liquid
Color..... Dark Chocolate Brown

Odor..... Slightly Bituminous odor

Odor Threshold Not determined

Ph Value Not determined

Change in Condition:

Melting point/Melting Range Not Determined
Boiling point/Boiling range Not Determined

Flash Point..... Not Applicable

Flammability (Solid Gaseous) Not Applicable

Auto/Self-Ignition Temperature Not determined

Decomposition Temperature Not determined

Self-Igniting Product is not self-igniting.

Danger of Explosion Product does not present an explosion Hazard.

Explosion Limits:

Lower Not determined
Upper Not determined

Vapor Pressure Not determined

Density at 20° C..... 1.20 – 1.25 g/cm³

Relative Density Not Determined

Vapor Density Not Determined

Evaporation Rate Not Determined

Solubility in/Miscibility with Water Dilutable with water

Partition Coefficient (n-octanol/water) Not Determined

Viscosity:

Dynamic Not Determined
Kinematic Not Determined

9.2 Other Information: No further relevant information available

SECTION 10

STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition/conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.

Reacts with strong oxidizing agents.

Reacts with strong acids.

10.4 Conditions to avoid: Store away from oxidizing agents and heat.



10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11

TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: Not Classified.

LD/LC50 values relevant for classification:

91-20-3 naphthalene

| | | |
|--------|------|------------------|
| Oral | LD50 | 490 mg/kg (rat) |
| Dermal | LD50 | 5000 mg/kg (rat) |

Primary irritant effect:

On the skin: Slight irritant effect on skin and mucous membranes.

On the eye: Slight irritant effect on eyes.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

Danger through skin adsorption.

The product can cause inheritable damage.

Toxic and/or corrosive effects may be delayed up to 24 hours.

May cause genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Sensitization: Sensitization possible by skin contact.

Repeated dose toxicity:

May cause damage to organs through prolonged or repeated exposure.

Repeated exposures may result in skin and/or respiratory sensitivity.

SECTION 12

ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity: Toxic for aquatic organisms.

12.2 Persistence and degradability-

No further relevant information available.

12.3 Bio-accumulative potential-

No further relevant information available.

12.4 Mobility in soil-

No further relevant information available.

12.5 Results of PBT and vPvB assessment-

None available

12.6 Other adverse effects:

No further relevant information available.

SECTION 13

DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Recommendation:

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

SECTION 14 TRANSPORTATION INFORMATION

In accordance with DOT.

14.1 UN-Number

Not Applicable.

14.2 UN proper shipping name

Not Applicable

14.3 Additional Information

None available

Special Transport Precaution-

Read all safety precautions before handling the product.

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture United States (USA)

SARA

| Section 313 (Specific toxic chemical listings): | |
|--|----------------|
| 91-20-3 | naphthalene |
| 50-32-8 | benzo[a]pyrene |

| TSCA (Toxic Substances Control Act): |
|---|
| All ingredients are listed. |

Proposition 65 (California):

Chemicals known to cause cancer:

Reference to Crystalline Silica and/or Quartz is based on unbound respirable particles and is not generally applicable to product as supplied.

| | |
|------------|----------------|
| 14808-60-7 | quartz |
| 91-20-3 | naphthalene |
| 218-01-9 | chrysene |
| 50-32-8 | benzo[a]pyrene |

| Chemicals known to cause reproductive toxicity for females: |
|--|
| None of the ingredients are listed. |

| Chemicals known to cause reproductive toxicity for males: |
|--|
| None of the ingredients is listed. |

| Chemicals known to cause developmental toxicity: |
|---|
| None of the ingredients is listed. |



Carcinogenic Categories

| EPA (Environmental Protection Agency) | | |
|--|----------------|--------|
| 91-20-3 | naphthalene | C, CBD |
| 50-32-8 | benzo[a]pyrene | B2 |

| IARC (International Agency for Research on Cancer) | | |
|---|----------------|----|
| 14808-60-7 | quartz | 1 |
| 91-20-3 | naphthalene | 2B |
| 50-32-8 | benzo[a]pyrene | 1 |

| TLV (Threshold Limit Value established by ACGIH) | | |
|---|----------------|----|
| 50-32-8 benzo[a]pyrene | TLV (USA) | A1 |
| 1332-58-7 | Kaolin | A4 |
| 14808-60-7 | quartz | A2 |
| 91-20-3 | naphthalene | A4 |
| 50-32-8 | benzo[a]pyrene | A2 |

| NIOSH-Ca (National Institute for Occupational Safety and Health) | | |
|---|----------------|--|
| 14808-60-7 | quartz | |
| 50-32-8 | benzo[a]pyrene | |

SECTION 16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H340 May cause genetic defects.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H351 Suspected of causing cancer.
- H360FD May damage fertility. May damage the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- R20 Harmful by inhalation.
- R22 Harmful if swallowed.
- R40 Limited evidence of a carcinogenic effect.
- R43 May cause sensitization by skin contact.
- R45 May cause cancer.
- R46 May cause heritable genetic damage.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.
- R68 Possible risk of irreversible effects.

Abbreviations and acronyms:

| | |
|--------------------|---|
| ADR: | Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| IMDG: | International Maritime Code for Dangerous Goods |
| DOT: | US Department of Transportation |
| IATA: | International Air Transport Association |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals |
| ACGIH: | American Conference of Governmental Industrial Hygienists |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| ELINCS: | European List of Notified Chemical Substances |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society) |
| NFPA: | National Fire Protection Association (USA) |
| HMIS: | Hazardous Materials Identification System (USA) |
| WHMIS: | Workplace Hazardous Materials Information System (Canada) |
| DNEL: | Derived No-Effect Level (REACH) |
| PNEC: | Predicted No-Effect Concentration (REACH) |
| LC50: | Lethal concentration, 50 percent |
| LD50: | Lethal dose, 50 percent |
| Acute Tox. 4: | Acute toxicity, Hazard Category 4 |
| Skin Corr. 1B: | Skin corrosion/irritation, Hazard Category 1B |
| Eye Dam. 1: | Serious eye damage/eye irritation, Hazard Category 1 |
| Skin Sens. 1: | Sensitization - Skin, Hazard Category 1 |
| Muta. 1B: | Germ cell mutagenicity, Hazard Category 1B |
| Muta. 2: | Germ cell mutagenicity, Hazard Category 2 |
| Carc. 1B: | Carcinogenicity, Hazard Category 1B |
| Carc. 2: | Carcinogenicity, Hazard Category 2 |
| Repr. 1B: | Reproductive toxicity, Hazard Category 1B |
| STOT RE 2: | Specific target organ toxicity - Repeated exposure, Hazard Category 2 |
| Aquatic Acute 1: | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1: | Hazardous to the aquatic environment - Chronic Hazard, Category 1 |

Sources

| | |
|---------------------|---|
| SDS Prepared by: | STAR, INC., 1150 Milepost Drive, Columbus, OH 43026 Tel. no. 614-870-0744, fax 614-870-0598 Website: www.starseal.com |
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- END OF SDS -