SECTION 1. IDENTIFICATION

Product name: TERSPERSE® 2020

Manufacturer or supplier’s details
Company name of supplier: Huntsman International LLC
Address: P.O. Box 4980
The Woodlands,
TX  77387
United States of America (USA)
Telephone: TechInfo: (281) 719-7780
E-mail address of person responsible for the SDS: MSDS@huntsman.com
Emergency telephone number: Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use
Recommended use: Surfactant

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200
Combustible dust
Skin irritation: Category 2
Eye irritation: Category 2A

GHS label elements
Hazard pictograms: ⚠️

Signal word: Warning
Hazard statements: May form combustible dust concentrations in air.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
Precautionary statements: Prevention:
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.

Storage:
Not available

Disposal:
Not available

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts</td>
<td>68425-94-5</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and : None known.
SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : No information available.

Hazardous combustion products : Sulphur oxides

Specific extinguishing methods : No data is available on the product itself.

Further information : No action shall be taken involving any personal risk or without suitable training.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Keep in properly labelled containers.

Materials to avoid: For incompatible materials please refer to Section 10 of this SDS.

Further information on storage stability: Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Personal protective equipment
Respiratory protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection: Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: powder

Colour: light brown
Odour : characteristic
Odour Threshold : No data available
pH : 7.5 - 10
   Concentration: 50 g/l
Melting point : No data available
Boiling point : >= 392 °F / >= 200 °C
Flash point : >= 201 °F / >= 94 °C
   Method: closed cup
Evaporation rate : No data is available on the product itself.
Flammability (solid, gas) : No data is available on the product itself.
Flammability (liquids) : No data is available on the product itself.
Upper explosion limit / Upper flammability limit : No data is available on the product itself.
Lower explosion limit / Lower flammability limit : No data is available on the product itself.
Vapour pressure : No data is available on the product itself.
Relative vapour density : No data available
Relative density : No data available
Density : 0.5 g/cm³ (68 °F / 20 °C)
Solubility(ies)
   Water solubility : soluble
   Solubility in other solvents : No data is available on the product itself.
Partition coefficient: n-octanol/water : No data is available on the product itself.
Auto-ignition temperature : No data is available on the product itself.
Thermal decomposition : No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.
Viscosity
   Viscosity, dynamic : No data available
Explosive properties : No data is available on the product itself.
Oxidizing properties : No data is available on the product itself.
Particle size : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Dust may form explosive mixture in air.
Conditions to avoid : Heat, flames and sparks.
Incompatible materials : Strong oxidizing agents
Hazardous decomposition products : Sulphur Oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity
Acute oral toxicity : No data available
Acute inhalation toxicity : No data available
Acute dermal toxicity : No data available
Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation
Components:
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:
Assessment: Irritating to skin.

Serious eye damage/eye irritation
Components:
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:
Assessment: Irritating to eyes.

Respiratory or skin sensitisation
No data available
Assessment: No data available

Germ cell mutagenicity
Genotoxicity in vitro : No data available
Genotoxicity in vivo : No data available

Carcinogenicity
No data available
Carcinogenicity - Assessment : No data available

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Effects on fertility : No data available
Effects on foetal development : No data available
Reproductive toxicity - Assessment : No data available

STOT - single exposure
No data available

STOT - repeated exposure
No data available

Repeated dose toxicity
No data available
Repeated dose toxicity - Assessment : No data available

Aspiration toxicity
No data available

Experience with human exposure
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution
No data available

Neurological effects
No data available

Further information
Ingestion: No data available

 SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxicity to fish : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to microorganisms : No data available

Toxicity to soil dwelling : No data available
organisms

Plant toxicity : No data available
Sediment toxicity : No data available
Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment
Acute aquatic toxicity : No data available
Chronic aquatic toxicity : No data available
Toxicity Data on Soil : No data available
Other organisms relevant to the environment : No data available

**Persistence and degradability**

Biodegradability - Product : Result: Not readily biodegradable.
Biodegradation: < 60 %
Exposure time: 28 d

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available
BOD/COD : No data available
ThOD : No data available
BOD/ThOD : No data available
Dissolved organic carbon (DOC) : No data available
Physico-chemical removability : No data available
Stability in water : No data available
Photodegradation : No data available
Impact on Sewage Treatment : No data available

**Bioaccumulative potential**

Bioaccumulation : No data available
Partition coefficient: n-octanol/water : No data available
Mobility in soil
Mobility : No data available
Distribution among environmental compartments : No data available
Stability in soil : No data available

Other adverse effects
Environmental fate and pathways : No data available
Results of PBT and vPvB assessment : No data available
Endocrine disrupting potential : No data available
Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer
Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available
Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal methods
Waste from residues : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of contents/ container to an approved waste disposal plant.
Contaminated packaging : Empty remaining contents. Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA
Not regulated as dangerous goods

IMDG
Not regulated as dangerous goods

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

National Regulations

DOT Classification
Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>formaldehyde</td>
<td>50-00-0</td>
<td>100</td>
<td>*</td>
</tr>
<tr>
<td>naphthalene</td>
<td>91-20-3</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards

: Combustible dust
  Skin corrosion or irritation
  Serious eye damage or eye irritation

SARA 313

: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

WARNING: This product can expose you to chemicals including formaldehyde, naphthalene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

CH INV

: On the inventory, or in compliance with the inventory
SAFETY DATA SHEET

TERSPERSE® 2020

Version 1.3
Revision Date: 07/02/2018
SDS Number: 400001002781
Date of last issue: 05/15/2018
Date of first issue: 01/19/2016

DSL : All components of this product are on the Canadian DSL
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : Not in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory
TCSI : On the inventory, or in compliance with the inventory
TSCA : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>0</td>
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</table>

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/'" represents the absence of a chronic hazard.

Revision Date : 07/02/2018

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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