SAFETY DATA SHEET

SDS # : 082077

CLERANE 180

Date of the previous version: 2016-11-22 Revision Date: 2017-06-30 Version 2

1. IDENTIFICATION

Product identifier

Product name CLERANE 180

Other means of identification

Product Code(s) 082077

Trade name -

Substance/mixture Substance

Recommended use of the chemical and restrictions on use


Uses advised against Do not use for any purpose other than the one for which it is intended

Details of the supplier of the safety data sheet

Supplier Address TOTAL Specialties USA, Inc.
1201 Louisiana St. Suite 1800
Houston, TX 77002
Phone: 713-483-5000

Contact Point Technical/ HSEQ

E-mail Address ProductSafety@total.com

Emergency telephone number

Emergency telephone 1-800-424-9300 (CHEMTREC 24/7 Domestic)
1-703-527-3887 (CHEMTREC 24/7 International)

2. HAZARDS IDENTIFICATION

Classification

Flammable liquids - Category 4
Aspiration toxicity - Category 1

Label elements
DANGER

Hazard Statements
Combustible liquid
May be fatal if swallowed and enters airways

Precautionary Statements - Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place

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

Unknown Acute Toxicity
No information available

Hazards not otherwise classified (HNOC)
Repeated exposure may cause skin dryness or cracking

Other information
Physical-Chemical Properties
Vapors may form explosive mixtures with air. Vapours are heavier than air and may spread near ground level to sources of ignition.

Properties Affecting Health
Repeated exposure may cause skin dryness or cracking. Prolonged skin contact may defat the skin and produce dermatitis.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Chemical nature
A complex and variable combination of paraffinic and cyclic hydrocarbons having a carbon number range predominantly of C10 to C13 and boiling in the range of approximately 160°C
to 245°C.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>^</td>
<td>100</td>
</tr>
</tbody>
</table>

Additional information: Related CAS number: 64742-48-9

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice: IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin contact: Remove contaminated clothing and shoes. Wash off with soap and water.

Inhalation: In case of exposure to intense concentrations of vapours, fumes or spray, transport the person away from the contaminated zone, keep warm and allow to rest.

Ingestion: Do not ingest. If swallowed then seek immediate medical assistance. Risk of product entering the lungs on vomiting after ingestion. In this case, the casualty should be sent immediately to hospital.

Protection of First-aiders: Use personal protective equipment.

Most important symptoms/effects, acute and delayed

Skin contact: Prolonged contact may cause redness and irritation.

Eye contact: Burning feeling and temporary redness.

Inhalation: The inhalation of vapours or aerosols may be irritating for the respiratory tract and for mucous membranes, Eye Irritation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system.

Ingestion: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Abdominal pain. May cause central nervous system depression.

Symptoms: Redness.
5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Foam. Dry powder. Carbon dioxide (CO₂).

**Uniform Fire Code**
Combustible Liquid: III-A

**Unsuitable Extinguishing Media**
Do not use a solid water stream as it may scatter and spread fire.

**Special Hazard**
Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge**
May be ignited by friction, heat, sparks or flames.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**General Information**
Use personal protective equipment. Evacuate non-essential personnel. Ensure adequate ventilation, especially in confined areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material.

**Other information**
Remove all sources of ignition. Stop all work that requires a naked flame, stop all vehicles, stop all machines and equipment that may cause sparks or flames.

**Environmental precautions**

**General Information**
Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills. The product should not be allowed to enter drains, water courses or the soil. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

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

**Methods for cleaning up**
Use non-sparking handtools and explosionproof electrical equipment. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Following product recovery, flush area with water.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

**Technical measures**

Ensure adequate ventilation. Do not spray at high pressure (> 3 bar). WHILE MOVING THE PRODUCT:. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Do not allow splash loading and ensure that the product is poured slowly, particularly at the beginning of the operation.

**Prevention of fire and explosion**

OPERATE ONLY ON COLD AND DEGASED TANKS IN VENTILATED PREMISES (TO AVOID RISK OF EXPLOSION). Handle away from any source of ignition (open flame and sparks) and heat (hot manifolds or casings). Do not smoke. Use explosionproof electrical equipment. Take precautionary measures against static discharges. Do not use compressed air for filling, discharging or handling. Design installations (machinery and equipment) to prevent burning product from spreading (tanks, retention systems, interceptors (traps) in drainage systems).

**Hygiene measures**

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Do not dry hands with rags that have been contaminated with product. Do not use abrasives, solvents or fuels. Wash hands before breaks and at the end of workday.

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

**Technical measures/Storage conditions**

Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Storage installations should be designed with adequate bunds so as to prevent ground or water pollution in case of leaks or spills. Use explosionproof electrical equipment. Keep in a bunded area. Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Ground/bond containers, tanks and transfer/receiving equipment. Store at room temperature. Keep containers tightly closed and properly labelled.

**Packaging material**

Use material compatible with:. Keep only in the original container or in a suitable container for this kind of product. steel. Stainless steel. Recommended materials for containers, or container linings use mild steel, stainless steel.

**Materials to Avoid**

Strong acids. Oxidizing agents.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**
Exposure limits
Ingredients with workplace control parameters

Advisory OEL
CEFIC-HSPA : 1200 mg/m³

Exposure controls

Engineering Measures
When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment. Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

General Information
Protective engineering solutions should be implemented and in use before personal protective equipment is considered. These recommendations apply to the product as supplied. If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

Eye/face protection
If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection
Wear suitable protective clothing. Protective shoes or boots.

Hand Protection
Protective gloves.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Do not dry hands with rags that have been contaminated with product. Do not use abrasives, solvents or fuels. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Petroleum solvent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
</tbody>
</table>
### 10. STABILITY AND REACTIVITY

**Reactivity**  
None under normal processing.

**Chemical stability**  
Stable under recommended storage conditions.

**Possibility of hazardous reactions**  
None under normal processing.

**Conditions to avoid**  
Heat, flames and sparks. Take precautionary measures against static discharges.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure

Inhalation, Ingestion, Eye contact, Skin contact.

Symptoms

Skin contact
Prolonged contact may cause redness and irritation.

Eye contact
Burning feeling and temporary redness.

Inhalation
The inhalation of vapours or aerosols may be irritating for the respiratory tract and for mucous membranes, Eye Irritation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system.

Ingestion
If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Abdominal pain. May cause central nervous system depression.

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

Acute toxicity - Product Information

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

Oral
Not classified.

ATEmix (oral)
5001 mg/kg

Dermal
Not classified

ATEmix (dermal)
5001 mg/kg

Inhalation
Not classified

Acute toxicity - Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>LD50 &gt; 5000 mg/kg bw (rat - OECD 401)</td>
<td>LD50 (24h) &gt; 2000 mg/kg bw (rat - OECD 402)</td>
<td>LC50(8h) &gt; 5000 mg/m³ (Rat - Vapours - OECD 403)</td>
</tr>
</tbody>
</table>
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**Version:** 2

### Skin corrosion/irritation
Not classified.

### Serious eye damage/eye irritation
Not classified.

### Sensitization
Not classified as a sensitizer.

### Carcinogenicity
This product is not classified carcinogenic.

### Mutagenicity
This product is not classified as mutagenic.

### Reproductive toxicity
This product does not present any known or suspected reproductive hazards.

### Developmental Toxicity
Not classified.

### STOT - single exposure
None under normal use conditions.

### STOT - repeated exposure
None under normal use conditions.

### Other adverse effects
Frequent or prolonged skin contact destroys the lipoacid cutaneous layer and may cause dermatitis.

### Aspiration hazard
May be fatal if swallowed and enters airways.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Acute aquatic toxicity - Product Information

Not applicable

#### Acute aquatic toxicity - Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>Toxicity to microorganisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ErL50 (72h) &gt; 1000 mg/l (Pseudokirchneriella subcapitata - OECD 201)</td>
<td>LL50 (96h) &gt; 1000 mg/l (Oncorhynchus mykiss - OECD 203)</td>
<td>EL50 (48h) &gt; 1000 mg/l (Daphnia magna - OECD 202)</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Chronic aquatic toxicity - Product Information

Not applicable

#### Chronic aquatic toxicity - Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>NOELR (72h) = 1000 mg/l (Pseudokirchneriella subcapitata - biomass - OECD 201) NOELR (72h) = 1000 mg/l (Pseudokirchneriella subcapitata - growth rate - OECD 201)</td>
<td>NOELR (21d) = 0,18 mg/l (Daphnia magna - QSAR Petrotox)</td>
<td>NOELR (28d) = 0.10 mg/l (Oncorhynchus mykiss - QSAR Petrotox)</td>
<td>-</td>
</tr>
</tbody>
</table>
Effects on terrestrial organisms

No information available.

Persistence and degradability

General Information

Readily biodegradable (80 % after 28 days).

<table>
<thead>
<tr>
<th>Biodegradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>OECD 301F</td>
</tr>
</tbody>
</table>

Bioaccumulative potential

Product Information

Measured experimental data on hydrocarbon UVCB substances are not meaningful, since each of the constituents is likely to behave differently.

logPow

Not applicable

Component Information

Not applicable.

Mobility

Soil

Given its physical and chemical characteristics, the product has no soil mobility.

Air

The product evaporates readily.

Water

The product is insoluble and floats on water.

Other adverse effects

General Information

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods

Dispose of in accordance with local regulations.

Contaminated packaging

Empty containers may contain flammable or explosive vapors. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note

DOT classification for bulk shipments only: This material has been determined to be NOT COMBUSTIBLE according to 49 CFR 173.120; it does not sustain combustion by
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ASTM D4206

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO/IATA
Not regulated

IMDG/IMO
Not regulated

ADR/RID
Not regulated

ADN
UN/ID No UN9003
Proper shipping name SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C
Hazard class 9
Description UN9003, SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C, 9

15. REGULATORY INFORMATION

REACH registration No 01-2119457273-39
Related CAS number 64742-48-9

International Inventories
The substance is listed or exempted from listing in the following inventories:
Europe (EINECS/ELINCS/NLP)
U.S.A. (TSCA)
Canada (DSL/NDSL)
Australia (AICS)
Korea (KECL)
China (IECSC)
Japan (ENCS)
Philippines (PICCS)
New Zealand (NZIoC)
Taiwan (TCSI)

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Acute Health Hazard Yes
Chronic Health Hazard No
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No
Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
No information available

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>Physical Hazard 0</td>
<td>X</td>
</tr>
</tbody>
</table>

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)
Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

Revision Date: 2017-06-30
Revision Note (M)SDS sections updated: 14

Abbreviations, acronyms
ACGIH = American Conference of Governmental Industrial Hygienists
bw = body weight
bw/day = body weight/day
EC x = Effect Concentration associated with x% response
GLP = Good Laboratory Practice
IARC = International Agency for Research of Cancer
LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one
half) of a group of test animals
LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals
LL = Lethal Loading
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
OECD = Organization for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

Legend
Section 8
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH - National Institute for Occupational Safety and Health
TLV - Threshold Limit Values
PEL - Permissible Exposure Limits
IDHL - Immediately Dangerous to Life or Health concentrations
TWA - Time Weight Average
STEL - Short Term Exposure Limits
S* - Skin notation
TSCA - Toxic Substance Control Act

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfill his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet