Safety Data Sheet

according to Regulation (EC) No 1907/2006

274(E) Industrial Degreaser (Bulk)

Revision date: 15.11.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

274(E) Industrial Degreaser (Bulk)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Petroleum base cleaner

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name: Chesterton International GmbH
Street: Am Lenzenfleck 23
Place: DE-85737 Ismaning GERMANY
Telephone: +49 89 99 65 46 - 0
Fax: +49 89 99 65 46 - 50

1.4. Emergency telephone

+49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Aspiration hazard: Asp. Tox. 1

Hazard Statements:

May be fatal if swallowed and enters airways.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, < 2% aromatics

Signal word: Danger

Pictograms:

Hazard statements

H304 May be fatal if swallowed and enters airways.
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Precautionary statements
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of waste according to applicable legislation.

Special labelling of certain mixtures
EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

Further Information
No information available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Call a doctor.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

After contact with eyes
Rinse immediately carefully and thoroughly with eye-bath or water. If eye irritation persists: Get medical advice/attention.

After ingestion
Do NOT induce vomiting.
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Immediately call a doctor.

4.2. Most important symptoms and effects, both acute and delayed
Causes eye irritation. Causes skin irritation. Repeated exposure may cause skin dryness or cracking.
Most important symptoms and effects, both acute and delayed: Headache, Dizziness, Pulmonary oedema
Vapours may cause drowsiness and dizziness.

4.3. Indication of any immediate medical attention and special treatment needed
First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Dry extinguishing powder. Carbon dioxide (CO2). alcohol resistant foam. Water spray jet
Unsuitable extinguishing media
High power water jet

5.2. Special hazards arising from the substance or mixture
Nitrogen oxides (NOx), Carbon dioxide (CO2), Carbon monoxide

5.3. Advice for firefighters
Special protective equipment for firefighters Protective clothing.
In case of fire: Wear self-contained breathing apparatus.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
See protective measures under point 7 and 8.
Provide adequate ventilation.
Personal protection equipment: see section 8

6.2. Environmental precautions
Do not allow to enter into surface water or drains. Cover drains.

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the
recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
See protective measures under point 7 and 8.
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
See section 8. Wear personal protection equipment (refer to section 8).
Advice on protection against fire and explosion
Avoid contact with eyes and skin.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep cool. Protect from sunlight.

Further information on storage conditions
Keep away from:
Frost
Heat
Humidity

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, &lt; 2% aromatics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNEL type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>1300 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
<td>840 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>local</td>
<td>1100 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>1200 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
<td>180 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>local</td>
<td>640 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

PNEC values
<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, &lt; 2% aromatics</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.
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Protective and hygiene measures
Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Eye/face protection
Suitable eye protection:
Eye glasses with side protection
goggles

Hand protection
Tested protective gloves must be worn: DIN EN 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
Thickness of the glove material >= 0,4 mm
Breakthrough times and swelling properties of the material must be taken into consideration.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Wearing time with occasional contact (splashes): max. 480 min. (NBR (Nitrile rubber))
Wearing time with permanent contact 240 - 480 min (NBR (Nitrile rubber))
Observe the wear time limits as specified by the manufacturer.

Skin protection
Protective clothing

Respiratory protection
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Filtering device (full mask or mouthpiece) with filter: AX

Environmental exposure controls
No special measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>mild odour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test method</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pH-Value</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>160 - 245 °C</td>
</tr>
<tr>
<td>Sublimation point</td>
<td>not determined</td>
</tr>
<tr>
<td>Softening point</td>
<td>not determined</td>
</tr>
<tr>
<td>Pour point</td>
<td>&lt; -20 °C</td>
</tr>
</tbody>
</table>
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Flash point: >61 °C

Flammability
Solid: not determined
Gas: not determined

Explosive properties
Vapours can form explosive mixtures with air.
Lower explosion limits: 0,6 g/m³
Upper explosion limits: 7 g/m³
Ignition temperature: > 200 °C

Auto-ignition temperature
Solid: not determined
Gas: not determined

Decomposition temperature: not determined

Oxidizing properties
No information available.

Vapour pressure: <1 hPa
(at 20 °C)

Density (at 15 °C): 0,8 g/cm³

Water solubility: Immiscible

Solubility in other solvents
No information available.

Partition coefficient: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: 1,3 mm²/s
(at 40 °C)

Vapour density: <1 (Air=1)

Evaporation rate: 0,4 (n-butyl acetate = 1)

9.2. Other information
No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability
The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
This material is considered to be non-reactive under normal use conditions.
10.4. Conditions to avoid
This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

10.5. Incompatible materials
Oxidising agent, strong

10.6. Hazardous decomposition products
Nitrogen oxides (NOx), Carbon dioxide (CO2), Carbon monoxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, &lt; 2% aromatics</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 5000</td>
<td>Rat</td>
<td>Study report (1988)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td>Study report (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50 mg/l</td>
<td>&gt; 4,96</td>
<td>Rat</td>
<td>Study report (1992)</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Repeated exposure may cause skin dryness or cracking.

Aspiration hazard
May be fatal if swallowed and enters airways. (Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, < 2% aromatics)

SECTION 12: Ecological information

12.1. Toxicity
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No information available.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, &lt; 2% aromatics</td>
<td></td>
<td></td>
<td></td>
<td>Pseudokirchneriella subcapitata</td>
<td>Study report; company data (1995)</td>
<td>OECD Guideline 201</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50 mg/l</td>
<td>&gt; 1000</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50 mg/l</td>
<td>4,5</td>
<td>48</td>
<td></td>
<td>Daphnia magna</td>
<td>Study report (1995)</td>
<td>OECD Guideline 202</td>
</tr>
<tr>
<td></td>
<td>Fish toxicity</td>
<td>NOEC mg/l</td>
<td>0,101</td>
<td>28</td>
<td>d</td>
<td>Oncorhynchus mykiss</td>
<td>CONCAWE, Brussels, Belgium (2010)</td>
<td>The aquatic toxicity was estimated by a</td>
</tr>
<tr>
<td></td>
<td>Crustacea toxicity</td>
<td>NOEC mg/l</td>
<td>0,176</td>
<td>21</td>
<td>d</td>
<td>Daphnia magna</td>
<td>CONCAWE, Brussels, Belgium (2010)</td>
<td>The aquatic toxicity was estimated by a</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Contaminated packaging

Dispose of waste according to applicable legislation.

SECTION 14: Transport information

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.
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Inland waterways transport (ADN)

14.1. UN number: UN 9003
14.2. UN proper shipping name: SUBSTANCES WITH A FLASH-POINT ABOVE 60 °C AND NOT MORE THAN 100 °C
14.3. Transport hazard class(es): 9
14.4. Packing group: -
Hazard label: -

Marine transport (IMDG)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information
Restrictions on use (REACH, annex XVII):
Entry 28: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, < 2% aromatics

National regulatory information
Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment
For the following substances of this mixture a chemical safety assessment has been carried out:
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclenes, < 2% aromatics

SECTION 16: Other information
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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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CAS: Chemical Abstracts Service (division of the American Chemical Society)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
EC50: Effective concentration, 50 percent
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp. Tox. 1; H304</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)
- H304: May be fatal if swallowed and enters airways.
- EUH066: Repeated exposure may cause skin dryness or cracking.

Further Information
This information is based solely on data provided by suppliers of the materials used, not on the mixture itself.
No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose.
The user must make their own determination as to suitability.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)