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

1.1. Product identifier
RAVALENE CR H xx44

Further trade names
x = 0 - 9 ( MFI range / film quality )

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
Manufacturing of plastic articles and goods including compounding and conversion, eventually recycling.

1.3. Details of the supplier of the safety data sheet
Company name: Ravago Distribution Center NV
Street: Moerenstraat 85 A
Place: B 2370 Arendonk
Telephone: +32 (0) 14672511
Telefax: +32 (0) 14672012
e-mail: sdsinfo@ravago.com
Internet: www.ravago.com

1.4. Emergency telephone
number: +32(0)14672511
Only during office hours ( 8 am - 5 pm )

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

2.3. Other hazards
The hazards of this product are mainly associated with its processing
See section 11 for more detailed information on health effects and symptoms

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
Thermoplastic polymer ( industrial quality, recycled product ) (HDPE)

SECTION 4: First aid measures

4.1. Description of first aid measures
General information
First aider: Pay attention to self-protection!
Provide adequate ventilation.

After inhalation
Provide adequate ventilation.
In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.
Consult physician.

After contact with skin
The melted product can cause severe burns.
Do not use force or solvents to remove product incrustations from affected skin areas.
After contact with molten product, cool skin area rapidly with cold water.
Consult physician.
After contact with eyes
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion
No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.
Do NOT induce vomiting.
Consult physician.

4.3. Indication of any immediate medical attention and special treatment needed
Burns caused by molten material must be treated clinically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
   Suitable extinguishing media
   Unsuitable extinguishing media
   -

5.2. Special hazards arising from the substance or mixture
   Carbon dioxide. Carbon monoxide hydrocarbons.

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

Additional information
In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
   High slip hazard because of leaking or spilled product. (Granulate)

6.2. Environmental precautions
   Clean contaminated articles and floor according to the environmental legislation.

6.3. Methods and material for containment and cleaning up
   Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Do not empty into drains.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
   Advice on safe handling
   Provide adequate ventilation.
   Provide earthing of containers, equipment, pumps and ventilation facilities.
   Advice on protection against fire and explosion
   Avoid sources of ignition: heat, sparks, open fire.
   Further information on handling
   Avoid formation of dust. Dust can generate an explosive mixture with air. Foresee adequate extraction. When grinding, take into account measures to avoid dust explosion.

7.2. Conditions for safe storage, including any incompatibilities
   Requirements for storage rooms and vessels
   Keep in a cool place. Provide adequate ventilation.
   Advice on storage compatibility
   Storage temperature: < 40 °C unlimited durability.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td></td>
<td>3.5</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Additional advice on limit values
For some additives used in this product exposure limits exist. However, they are incorporated in the product and under normal processing conditions no exposure is to be expected.

8.2. Exposure controls

Appropriate engineering controls
5mg/m³ (breathable dust) is the recommended limit value.

Protective and hygiene measures
Provide adequate ventilation.
When using do not eat, drink or smoke. Do not breathe dust.

Eye/face protection
Wear eye/face protection.

Hand protection
Wear suitable gloves.

Skin protection
Only wear fitting, comfortable and clean protective clothing.

Respiratory protection
Respiratory protection necessary at: In the case of the formation of dust. (half-mask with filter (DIN EN 149).)

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>solid (Granulate)</td>
</tr>
<tr>
<td>Colour</td>
<td>Black</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>

Test method

Changes in the physical state
Melting point: 130 - 140 °C
Flash point: not applicable

Explosive properties
In the case of the formation of dust. -> Dust explosive, Dust explosion category: ST 1

Lower explosion limits:
Upper explosion limits:
Ignition temperature: ASTM D 1929

Oxidizing properties
not applicable
Density: 0.85 - 0.95 g/cm³
Water solubility: insoluble

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>point of decomposition</td>
<td>&gt; 350 °C</td>
</tr>
<tr>
<td>Package density</td>
<td>600 - 1000 kg/m³</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.4. Conditions to avoid
Temperatures above thermal decomposition.

10.5. Incompatible materials
Not known.

10.6. Hazardous decomposition products
Carbon dioxide. Carbon monoxide hydrocarbons.

Further information
No risks worthy of mention.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

STOT-repeated exposure
For some additives used in this product exposure limits exist. However, they are incorporated in the product and under normal processing conditions no exposure is to be expected.

Further information
When used and handled according to the specifications, this product does not have any harmful effects to human health according to our experience and the information available. Contact the manufacturer in case the material is to be used in special applications such as in contact with food or for hygiene, medical or surgical end-use.

SECTION 12: Ecological information

12.1. Toxicity
Insoluble in: Water.

12.2. Persistence and degradability
Experience so far shows this product to be inert and not degradable.

12.3. Bioaccumulative potential
Due to the consistency along with the low water solubility of the product, bioavailability is unlikely.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
Material recycling possible. Refer to manufacturer or supplier for information on recovery or recycling. Dispose of waste in own country; otherwise, follow EC regulations. Remove according to the regulations.

SECTION 14: Transport information

Land transport (ADR/RID)
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.

Inland waterways transport (ADN)
14.2. UN proper shipping name:
Not a hazardous material with respect to transportation regulations.

14.3. Transport hazard class(es):
none

Marine transport (IMDG)
14.2. UN proper shipping name:
Not a hazardous material with respect to transportation regulations.
14.3. Transport hazard class(es): none

Air transport (ICAO-TI/IATA-DGR)
14.2. UN proper shipping name: Not a hazardous material with respect to transportation regulations.
14.3. Transport hazard class(es): none

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
No dangerous good in sense of this transport regulation.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

National regulatory information
Water contaminating class (D): - - not water contaminating

SECTION 16: Other information

Further Information
The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singulary responsible for adhering to existing laws and regulations.

This safety datasheet should be used in conjunction with technical datasheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose than that for which it was intended. This does not in any way excuse the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfil his obligations regarding the use of hazardous products. This information is not exhaustive. This does not exonerate the user from ensuring that legal obligations, other than those mentioned, relating to the use and storage of the product, do not exist. This is solely his responsibility. Furthermore, this safety datasheet is made up based on the legal requirements as set by EC 1272/2008 based on information as is available per July 2017 (date of entry into force). That information that is not yet filled in depends on the input we receive from our suppliers following the time scale as foreseen by EC 1272/2008 and depends solely on the registration of the concerned substances.

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