1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1.- Identification of the substance
Trade name: Anthracene Oil, Carbon Black Feedstock, Coal Tar Distillates
Molecular formula: N/A

1.2.- Use of the substance/preparation
Carbon black production

1.3.- Company/undertaking identification
Industrial Química del Nalón, S.A.
Avda. Galicia 31
E-33005 Oviedo
Spain
Tel: +34 98.598.26.00
Fax: +34 98.598.26.26
(See item 16.2 –Contact–)

1.4.- Emergency information
Tel: +34 98.598.26.61
Fax: +34 98.598.26.66
2. - **HAZARDS IDENTIFICATION**

2.1.- Hazard designation:

<table>
<thead>
<tr>
<th></th>
<th>T: Toxic (Carc. Cat. 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N: Dangerous for the environment</td>
</tr>
</tbody>
</table>

2.2.- Information concerning particular hazards for human and environment

R43: May cause sensitisation by skin contact
R45: May cause cancer
R46: May cause heritable genetic damage
R60: May impair fertility
R61: May cause harm to the unborn child
R68: Possible risk of irreversible effects
R22: Harmful if swallowed
R36/37/38: Irritant to eyes, respiratory system and skin
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

May cause thermal burns at the storage temperature.

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

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3. - **COMPOSITION / INFORMATION ON INGREDIENTS**

3.1.- Chemical Description

A complex combination of polycyclic aromatic hydrocarbons obtained from coal tar having an approximate distillation range of 300 °C to 400 °C (572 °F to 752 °F). Composed primarily of phenanthrene, anthracene and carbazole.

3.2.- IUPAC Name

N/A

3.3.- CAS Number

90640-80-5 Anthracene Oil

3.4.- Identification Number (s)

EINECS Number: 292-602-7
Index Number: 648-079-00-6
3.5.- Dangerous Components

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>EINECS</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>91-20-3</td>
<td>Naphthalene, pure</td>
<td>202-049-5</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>56-55-3</td>
<td>Benz[a]anthracene</td>
<td>200-280-6</td>
<td>&lt; 2%</td>
</tr>
<tr>
<td>218-01-9</td>
<td>Chrysene</td>
<td>205-923-4</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>205-99-2</td>
<td>Benzo[b]fluoranthene, benz[e]chryseneanthrylene</td>
<td>205-911-9</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>207-08-9</td>
<td>Benzo[k]fluoranthene</td>
<td>205-916-6</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>205-82-3</td>
<td>Benzo[j]fluoranthene</td>
<td>205-910-3</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>50-32-8</td>
<td>Benzo[a]pyrene</td>
<td>200-028-5</td>
<td>&lt; 2.5%</td>
</tr>
<tr>
<td>192-97-2</td>
<td>Benzo[e]pyrene</td>
<td>205-892-7</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>205-82-3</td>
<td>Benzo[j]fluoranthene</td>
<td>205-916-6</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>92-52-4</td>
<td>Biphenyl</td>
<td>202-163-5</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>53-70-3</td>
<td>Dibenzo[a,h]anthracene</td>
<td>200-181-8</td>
<td>&lt; 0.1%</td>
</tr>
</tbody>
</table>

3.5.- Additional information:

Anthracene oil (CAS 90640-80-5) was listed on 13 January 2010 as authorisation candidate according to Art. 59(1, 10) of the REACH Regulation No. 1907/2006 after classification as PBT substance. The legality of the PBT classification is challenged by industry and currently reassessed by the General Court, Luxembourg (Case T-94/10)

4.- **FIRST - AID MEASURES**

**SEEK MEDICAL ATTENTION IMMEDIATELY IF ANY SYMPTOMS OF POISONING ARISE.**

**REMOVE IMMEDIATELY ANY CONTAMINATED CLOTHING.**

**REMOVE SUBJECT FROM ANY EXPOSURE SOURCE.**

**PROVIDE PERSONAL PROTECTION FOR THE FIRST AIDER**

**After inhalation:** Remove subject from exposure area to fresh air. Administer oxygen or artificial respiration in severe cases.

**After skin contact:** Remove all contaminated clothing. Wash exposed area with non abrasive soap and water.
After eye contact: Flush open eyes immediately with plenty of water for at least 15 minutes. Then consult doctor.

After ingestion: If conscious, first try to induce vomiting and then give copious quantities of water. Do not give anything by mouth to an unconscious person. Get medical help immediately.

5. - FIRE - FIGHTING MEASURES

5.1.- Extinguishing media:

- **Suitable**: Dry chemicals, carbon dioxide, sand, foam, steam or water fog.
- **Not Suitable**: Water jet (may spread fire).

5.2.- Special hazards caused by the material, its products of combustion or resulting gases

Incomplete combustion in a fire may result in a release of toxic carbon monoxide.

5.3.- Protective equipment

Full-body protective clothing, including breathing apparatus.

Do not inhale combustion gases.

5.4.- Additional information

Cool storage containers with water spray jet.

6. - ACCIDENTAL RELEASE MEASURES

6.1.- Personal Precautions:

Wear full-body, industrial-type work clothing, including chemical resistant gloves, boots and goggles.

Avoid breathing vapours or contact with skin and eyes. Ventilate the area if the spill occurs indoors.

Keep away from ignition sources.

6.2.- Environmental Precautions:

Keep away from drains, surface- and ground-water and soil.

Inform respective authorities in case of seepage into water course/sewage system.

6.3.- Cleaning up methods:

Adsorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust), allow to solidify, collect mechanically and place in containers for safe disposal. Containers should be sealed and labelled.

Dispose of contaminated material and waste according to item 13.1.

Ensure adequate ventilation.
7. - **HANDLING AND STORAGE**

7.1. - Handling:

Practice special caution when handling this product. All work must be organized and carried out according to regulations regarding safe handling of carcinogenic substances and products.

When loading/unloading the product, use pump or nitrogen injection.

Ensure adequate ventilation and guard against ignition sources and static electricity.

Prevent the formation of vapours.

Use chemical resistant gloves and safety glasses.

Keep self-contained breathing equipment ready.

7.2. - Storage:

Keep carcinogenic substances in suitable, closed and labelled containers. Storerooms are to be provided with warning signs for toxic substances.

Store at 80-110 °C and keep away from open fire and ignition sources. Guard against static electricity.

Keep away from strong oxidizing substances.

Storage class: toxic liquid and dangerous for the environment. Store according to local and/or national regulations.

8. - **EXPOSURE CONTROLS / PERSONAL PROTECTION**

**TRAIN WORKERS AND USERS IN SAFETY MEASURES**

8.1. - Additional information about design of technical facilities

General or local exhaust ventilation may be necessary (see section 7)

8.2. - Components with limit values that require monitoring at the workplace

91-20-3 naphthalene, pure

OES: Short term value: 80 mg/m³, 15 ppm
Long term value: 53 mg/m³, 10 ppm

CHAN

Polycyclic Aromatic Hydrocarbons (PAHs): TLV is 0.2 mg/m³ (OSHA PEL / ACGIH)

8.3. - General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and toilet visits.

Avoid contact with eyes and skin.

Do not drink, eat, smoke or sniff while working.

Shower or take a bath at the end of work. Steam baths are recommended.

Take off immediately all contaminated clothing.

Store protective clothing separately.
8.4.- Respiratory protection
In case of brief exposure or low pollution use breathing filter apparatus (filter ABEK). In case of
intensive or longer exposure use (self-contained) breathing equipment.

8.5.- Protection of hands
Impermeable and chemical resistant gloves (heat resistant gloves if molten).
Selection of the glove material on consideration of the penetration times, rates of diffusion and the
degradation.

8.6.- Material of gloves
Butyl rubber, BR
Nitrile rubber, NBR
Neoprene

8.7.- Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has
to be observed.
Discard gloves as soon as any signs of degradation are noticed (e.g. swelling).

8.8.- Eye protection
Tightly sealed safety glasses or chemical grade goggles.

8.9.- Body protection
Wear full-body, industrial-type work clothing.
Do not use contaminated clothing.

9. - PHYSICAL AND CHEMICAL PROPERTIES

9.1.- General information
Form: Pasty below melting temperature. Liquid above melting point.
Colour: Dark brown to black
Odour: Aromatic

9.2.- Change in conditions
Boiling range: 250-400 °C
Melting range: 40-60 °C

9.3.- Flash point: > 100 °C (Method ASTM D92).

9.4.- Ignition temperature: > 450 °C
9.5.- **Self-flammability:** The product is not self igniting

9.6.- **Danger of explosion:** Vapours may form explosive mixtures with air

9.7.- **Vapour pressure at 20 °C:** < 200 Pa

9.8.- **Density at 20 °C:** 1.044 - 1.150 Kg/m$^3$

9.9.- **Solubility in / miscibility with water at 20 °C:** Slightly soluble

9.10.- **Dynamic viscosity at 80 °C:** 8-14 mPas

10.- **STABILITY AND REACTIVITY**

10.1.- **Conditions to avoid**
Sources of ignition.
To avoid thermal decomposition do not overheat.

10.2.- **Materials to avoid**
Contact with strong oxidizing agents.

10.3.- **Hazardous decomposition products**
No decomposition if used according to specifications. The substances arising from thermal decomposition cannot be accurately predicted. Any fumes/vapours are potentially irritant/toxic and suitable protective equipment should be worn.

11.- **TOXICOLOGICAL INFORMATION**

11.1.- **Acute toxicity. LD/LC50 values relevant for classification:**

- **91-20-3 naphthalene pure**
  - Oral LD50 >2000 mg/kg (rat)
  - Dermal LD50 >2500 mg/kg (rat)
  - Inhalative LC50/ 4h >100 mg/l (rat)

- **92-52-4 Biphenyl**
  - Oral LD50 3280 mg/kg (rat)

- **90640-80-5 Aceite de antraceno**
  - Oral LD50 >330 mg/kg (rat)
  - Dermal LD50 >3500 mg/kg (rat)
11.2.- Primary irritant effect

On the skin: Irritant to skin and mucous membranes

On the eye: Irritating effect

Sensitisation: When working in strong sunlight, skin irritation may occur equivalent to sunburn (photo sensitivity). Use cream with a high protection factor (10-20) against sunlight.

11.3.- 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: Harmful, irritant, carcinogenic, the product can cause inheritable damage.

12.- ECOLOGICAL INFORMATION

12.1.- General notes

Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Poisonous for fish and plankton.
Toxic for aquatic organisms.
The product biodegrades very slowly.

13.- DISPOSAL CONSIDERATIONS

13.1.- Product

Must be in accordance with the local authority and national legislation. Dispose of as Toxic and Hazardous Waste (Directive 78 / 319 / EC).
Must not be disposed together with household garbage or strong oxidizing agents. Do not allow product to reach sewage system.

13.2.- Uncleaned packaging

Same as for product
14. - **TRANSPORT INFORMATION**

14.1. - **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 9 Miscellaneous dangerous substances and articles
- **Hazard index number:** 90
- **Packaging group:** III
- **UN no.:** 3082
- **Hazard label:** ![Hazard Label](image)
- **Description of goods:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: complex aromatic hydrocarbons mixture)

14.2. - **Maritime transport**
- **IMDG class:** 9
- **UN number:** 3082
- **Label:** ![Label](image)
- **Packaging group:** III
- **EMS Number:** F-A, S-F
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: complex aromatic hydrocarbons mixture)

14.3. - **Air transport ICAO-TI and IATA-DGR**
- **ICAO/IATA class:** 9
- **UN/ID number:** 3082
- **Label:** ![Label](image)
- **Packaging group:** III
- **Correct technical name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: complex aromatic hydrocarbons mixture)
15.- REGULATORY INFORMATION

The product has been classified and marketed in accordance with EU Directives/Ordinance on Hazardous Materials (67/478/EEC and 1999/45/EC) and their implementations.

15.1.- Code letter and hazard designation of product

T: Toxic
N: Dangerous for the environment

15.2.- Hazard determining components of labelling

See item 2.5

15.3.- Risk phrases

R22: Harmful if swallowed
R45: May cause cancer
R46: May cause heritable genetic damage
R60: May impair fertility
R61: May cause harm to the unborn child
R43: May cause sensitisation by skin contact
R68: Possible risk of irreversible effects
R36/37/38: Irritating to eyes, respiratory system and skin
R51/53: Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

15.4.- Safety phrases

S53: Avoid exposure. Obtain special instructions before use.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S57: Use appropriate container to avoid environmental contamination
S61: Avoid release to the environment. Refer to special instructions/safety data sheet.
S27/28: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection

15.5.- Information about limitations of use

For professional users only.
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

15.6.- Water hazard class

Hazard class 2 (assessment by list): hazardous for water

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.

16.1.- Department Issuing MSDS: R&D Department

16.2.- Contact: Juan José Fernández