

**Safety Data Sheet***

Author: Dragana Cvetkov Rudež

PETROLEUM COKEIssue number: 1
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According to Regulation (EC) No 1907/2006

1. Identification of the chemical and of the company/ undertaking**1.1. Product identifier**

Trade name:	PETROLEUM COKE
Chemical name:	Petroleum coke
CAS number:	64741-79-3
EC number:	265-080-3
Index number:	Not applicable
REACH Registration No:	This substance is exempted from Registration according to the provisions of Annex V of REACH.

1.2. Relevant identified uses of the chemical and uses advised against

Identified uses:	Petroleum coke is used as fuel in combustion plants and other industrial and technological solid fuel plants. It is obtained by delayed coking from vacuum residue and heavy distillates. The use depends on the quality of petroleum coke (sulphur content, moisture content, volatile matter content and other components having an impact on the use of fuel in plants (cement plants, brickyards, etc.)
Specific end uses:	The above indicated uses are recommended. Other uses are not recommended unless testing is completed, which demonstrates that the risks will be controlled.

1.3. Details of the supplier of the safety data sheet:

Manufacturer/Supplier:	NIS a.d. Novi Sad
Address:	Narodnog fronta 12, 21000 Novi Sad, Serbia
Telephone:	+ 381 (0) 21 481 1111
Responsible person:	Dragana Cvetkov Rudež (REACH/SDS), dragana.cvetkov@nis.rs REACH and Chemical Management Advisor NIS a.d.
Only representative:	REACHLaw Ltd. Vänrikinkuja 3 JK 21 Espoo 02600 Finland Tel. +358(0) 9 412 3055 Fax: +358 (0) 9 412 3049 email: sds@reachlaw.fi

1.4 Emergency telephone number

Legal entity that places the chemical on the market:	+ 381 (0)21 481 1111 (08-16 h) + 381 (0)11 311 3311 (08-16 h)
Poison Control Centre:	+ 381 (0)11 360 8440 (0-24 h)

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2. Hazards identification**2.1. Classification of the chemical****Classification according to Regulation (EC) No 1272/2008 [CLP]**

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. However a safety data sheet is being supplied upon request as it contains a substance with an occupational exposure limit. No Reportable Hazardous Substance or Complex Substance.

Classification according to CLP/GHS:

The product is not classified as hazardous

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008 [CLP]**

This material is not considered to be hazardous according to regulatory guidelines.
No hazard label required.

Hazard pictograms: Not applicable.**Signal word:** Not applicable.**Hazard statements:** Not applicable.**Precautionary statements:** Not applicable.**Supplemental hazard information:** Not applicable.**2.3. Other hazards**

May form combustible dust concentrations in air.

PHYSICAL/CHEMICAL HAZARDS WARNING: May form combustible dust concentrations in air (during processing/handling), while accumulated static electricity may cause ignition.

HEALTH WARNING: If dust is generated, it may cause mild eye and respiratory irritation. Dust may be irritating to eyes and respiratory tract. Under normal conditions of intended use, this material does not pose a risk to health. Excessive exposure may cause eye, skin or respiratory irritation.

3. Composition/information on ingredients**Substance: X****Mixture:**

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3.1. Substance

Substance name	Product identifier	Concentration (%)	Classification according to CLP/GHS
PETROLEUM COKE	CAS no. : 64741-79-3 EC no. : 265-080-3	≤100	The product is not classified as hazardous

3.2. Mixtures

Not applicable.

4. First Aid Measures**4.1. Description of first aid measures**

Inhalation:	Remove from source of exposure to fresh air . First aiders are required to use respiratory protection and optimise the exposure of themselves or other persons. Seek immediate medical attention, if respiratory irritation, vertigo, nausea or dizziness occurs and if the symptoms persist.
Eye contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.Lift the eyelids with clean hands and flush the eyes with running water for 15-20 minutes. Remove the contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, seek medical attention.
Skin contact:	Remove contaminated clothing and shoes immediately, unless stuck to skin. Rinse irritated skin with running water and soap and seek medical attention.
Ingestion:	In case of swallowing larger quantities, have conscious person drink 2-3 glasses of water and get medical attention. DO NOT INDUCE VOMITING! Rinse mouth and seek medical attention, if any symptoms occur.

Note to first aider/physician: See Sections 2. and 3.

Additional advice:	Before providing first aid to injured people first protect yourself. First aider must be protected. See also Section 8. Never give anything by mouth if victim is unconscious, or is convulsing. Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice and attention.
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4.2. Most important symptoms and effects, both acute and delayed

Inhalation:	May cause respiratory irritation. High temperatures or mechanical operations may generate dust, which may irritate eyes, nose, throat and lungs.
Skin contact:	May cause skin irritation (redness).
Eye contact:	May cause eye irritation.
Ingestion:	May cause nausea.

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4.3. Indication of any immediate medical attention and special treatment needed

No data available.

5. Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media:	Use water fog, alcohol-resistant foam, dry chemical powder or carbon dioxide (CO ₂) to extinguish flames.
Unsuitable extinguishing media for safety reasons:	Do not use water jet. Straight streams of water may scatter and spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard:	Substance may form combustible dust concentration in air, which may ignited by the accumulated static electricity. Explosion: Avoid generating dust; fine dust dispersed in the air in sufficient concentration and in the presence of an ignition source is a potential dust explosion hazard.
Hazards arising from exposure the chemical or thermal decomposition products:	May form combustible dust concentrations in air, while accumulated static electricity may cause ignition. Dispose fire residues and contaminated fire water in accordance with the local regulations.
Combustion by-products:	CO, CO _x , NO _x , SO _x , H ₂ S, smoke

5.3. Advice for firefighters

Advice for firefighters:	Wear the prescribed personal protective equipment. Evacuate people to a safe place. In case of fire, wear a self-contained breathing apparatus. In case of fire, cool the tanks with water spray. Collect the waste fire water and do not release it in water and sewage drains. Explosive dust and air mixtures may develop during the fire. Ignition and sustained combustion can be invisible on the material surface until is well mixed and sparking occurs. Prevent material and contaminated water after extinguishing to discharge into drains or the environment.
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Special fire protection measures:	Avoid dust formation. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. When stored in large quantities, susceptible to spontaneous heating and combustion.
Special firefighting methods:	Use water spray to cool containers, tanks and protect people.
Special protective equipment for fire-fighters:	Use personal protective equipment for firefighters, special fire suits and protective masks. Wear EN 137 Type 2 Self contained breathing apparatus (SCBA) with EN 136 full face mask. Properties of protective clothing to wear in case of fire are defined in EN 469.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Recommendations for non-emergency personnel:	Evacuate people to a safe place. Provide adequate ventilation. Wear personal protective equipment. See also Section 8. Avoid contact with skin, eyes or clothing. Avoid contact and inhaling the dust. Avoid contact with spilled material. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid exposing dust to ignition sources (for example, use non-sparking tools). Keep away from open flames, hot surfaces and sources of ignition.
Eye protection:	Avoid contact with eyes. Use goggles or eye protection.
Skin protection:	Use protective clothing and nitrile/neoprene gloves when handling the product.
Respiratory protection:	Avoid inhaling dust.
Advice for emergency responders:	Only qualified personnel equipped with suitable protective equipment shall take action. See also Section 8.

6.2. Environmental precautions

Environmental protection measures:	Do not release into surface water or sewer drains. Avoid runoff into surface water or sanitary sewer systems. Prevent entry into waterways, sewers or confined areas.
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6.3. Methods and materials for containment and cleaning up

Containment and clean up methods:	<p>Stop leak or spillage, if without risk.</p> <p>For containment: Collect immediately or isolate and cover with PE foil to protect spilled product and dust from spreading.</p> <p>For cleaning up</p> <p>Large spill: Wet the spillage and collect by mechanical means. Put collected material into clean container. Avoid generation of dust. Do not wash into water-courses or drains. Dispose according to national regulations.</p> <p>Small spill: Collect and put into clean container. Clean up affected area and wash down with water.</p> <p>SPILL MANAGEMENT</p> <p>Land Spill: Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent dust cloud.</p> <p>Water Spill: Stop leak if you can do so without risk. Material will sink. Consult an expert. No immediate action required.</p> <p>Water spill and land spill recommendations are based on the most likely spill scenario for this material.</p> <p>Hand over the generated waster to companies authorised for waste disposal by the competent environmental protection ministry.</p>
Additional warnings:	Inform appropriate authority in case of accidental contamination of watercourses, soil or air (see subsection 1.4.). In case of major spills, call the Emergency Service (RS 112) or Police (RS 192) Firefighters (RS 139) and Ambulance (RS 194).

6.4. Reference to other sections

See also Section 8. for protective equipment.

See also Section 13. for waste treatment.

7. Handling and Storage**7.1. Precautions for safe handling**

Minimize dust generation and accumulation. Dust can build static electricity charges when subjected to the friction of transfer and mixing operations, and thus be a source of spark (source of ignition). Provide adequate precautions for sources of ignition.

Handling:	Keep away from source of heat. Remove all potential sources of ignition. Provide electrical grounding. Take static electricity protection measures by providing grounding. Load and unload the product only at the designated places in uncovered or covered pools - silos and uncovered means of transport. Ventilate the workplace, use personal protective equipment. See also Section 8. Avoid contact with skin, eyes and clothing.
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	<p>Do not inhale dispersed dust. Only qualified and trained personnel should transfer the product at the designated and properly arranged places into properly arranged tanks using adequate equipment and devices. Comply with the occupational safety and fire protection measures. Keep away from open flames, hot surfaces and sources of ignition.</p> <p>Avoid spillage and waste when weighing, loading and mixing the product. Avoid spillage, dust dispersal and keep away from drain pipes.</p> <p>Avoid waste and spillage. Prevent entry into drains.</p>
General occupational hygiene measures:	<p>Handle in accordance with good industrial hygiene and safety practice. Do not smoke, eat, drink or store food in the room where the product is handled. Wash hands immediately after handling the product. Wash contaminated clothing before reuse. Wear PPE. Keep personal clothing separate from PPE and workplace.</p>

7.2. Conditions for safe storage, including any incompatibilities

Store in properly built and equipped tanks. Store in a cool and well-ventilated area, and connect and ground all prescribed equipment. Avoid contact with oxidizing substances.

The container choice, for example storage vessel, may effect static accumulation and dissipation. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames and high temperatures. Do not store in open or unlabelled containers.

Compatible:	<p>In tanks constructed and equipped in line with the regulations</p> <p>Store in closed containers in a dry and cold well-ventilated area.</p> <p>Store petroleum coke cooled to ambient temperature, taking care not to allow air to pass through the coke layer.</p>
Avoid:	<p>Avoid dust formation and storage with other chemicals, particularly with those that may cause fire (oxidants, acids, etc.). Do not use sparking tools and devices in a warehouse. Keep away from open flames, hot surfaces and sources of ignition. Do not store in close proximity or with incompatible materials listed in Section 10.</p>

7.3. Specific end use(s)

No available data.

8. Exposure controls/personal protection

8.1. Exposure control parameters

Occupational exposure limits: No available data.

Recommended monitoring procedures: Measured concentration in air.
Monitoring of personal exposure.

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Petroleum coke (64741-79-3)**DNEL/DMEL (Workers)**

Long-term – local effects, inhalation

3 mg/m³ (8h)**DNEL/DMEL (General population)**

Long-term – local effects, inhalation

0.8 mg/m³ (24h)**8.2. Exposure controls and personal protection**

Individual protection measures:	Select the protective equipment type according to the concentration and amount of hazardous substance at the specific workplace.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment. In case of evaporation, use a respirator with a filter that meets the standard or certification. Recommended filter type: AP (Type A-EN 141). No respiratory protection equipment is required during normal operation. In special cases (e.g. spillage) use a protective mask with a filter for organic gases and vapours. In case of insufficient ventilation, wear a self-contained breathing apparatus. For rescue and maintenance work in storage tanks, use a self-contained open-circuit compressed air breathing apparatus (EN 137).
Hand protection:	Wear suitable protective gloves made of durable and impermeable material, resistant to chemicals (tested in accordance with EN 374). When choosing the appropriate gloves for a specific application and time of use in the workspace, other factors, among others, in the workspace should be taken into account, such as other chemicals that may be used, physical requirements (cutting / drilling protection, workmanship, and thermal protection) and instructions / specifications obtained from the glove supplier.
Eye protection:	Safety goggles with side shields (EN 166).
Skin and body protection:	Safety clothes made of natural fibres (cotton, etc.) and footwear covering the entire foot. Chemically resistant coats.
Occupational hygiene measures:	Act in accordance with industrial and safety practices. Do not smoke when handling this product. Wash hands after each break.
Thermal hazard protection:	Use special equipment. Protective gloves against thermal risks (EN 407).
Engineering measures:	The level of protection and the type of control measures required vary depending on the potential exposure conditions. Use ventilation equipment for protection against explosion if the dust concentration in air is high.

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	<p>Ventilation and conveyor systems used to handle this product are designed and maintained to minimize dust generation and accumulation. Ensure that dedusting equipments (such as exhaust ducts, dust collectors, containers and processing equipment) are designed to minimize the risk of dust ignition and to prevent explosion spread. Provide adequate ventilation. Use only in places with adequate exhaust ventilation. Take measures required to prevent static electricity discharges. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.</p> <p>Organisational measures to prevent/limit release, dispersal or exposure. See also Section 7.</p>
Environmental exposure controls:	<p>Ensure compliance with the applicable environmental regulations limiting the release to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions. Minimize releases to the environment. The Environmental Impact Assessment must be made in line with the legislation. Do not release into surface water or sewer. Dispose of in line with the regulations. Do not discharge into drains, sewage system or water-courses. See Section 6.</p>

9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Solid powder (granulas 1-6 mm)
Colour:	Black-grey
Odour:	Odourless

Information of occupational safety and health and environmental protection

Property	Value	Testing method
Odour threshold:	No data available	
pH:	No data available	
Softening point:	No data available	
Melting point/freezing point	No data available	
Initial boiling point and boiling range:	No data available	
Flash point:	≥ 93 °C	From references ^[2]

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Flammability	No data available	
Upper/lower flammability or explosive limits:	> 30 g/cm ³	From references [2]
Vapour pressure:	<0.1 kPa (20 °C)	From references [2]
Vapour density	No data available	
Relative density	0.80 - 2.10	From references. [2]
Solubility:	No data available	
Solubility in water at 20 °C:	No data available	
Partition coefficient n-octanol/water (LogPow) :	> 6,0	From references [2]
Viscosity:	No data available	
Decomposition temperature	No data available	
Auto-ignition temperature	340-380 °C	From references [2]
Explosive properties	No data available	
Oxidizing properties	No data available	
Volatility	No data available	

9.2. Other information

No available data.

10. Stability and reactivity

10.1. Reactivity:	In contact with incompatible materials. See also Section 10.5
10.2. Chemical stability:	The product is stable under predicted storage and handling conditions (see Section 7).
10.3. Possibility of hazardous reactions:	In contact with incompatible materials. See also Section 7.
10.4. Conditions to avoid:	Avoid sources of heat and sparks, flames, dust, moisture and contact with incompatible materials. Generation of higher dust concentrations. Avoid heat, flame and sparks. Avoid sources of heat, open flame, sparks and water presence at high equipment temperatures. See also Section 7.
10.5. Incompatible materials:	Strong oxidants and flammable substances. See also Section 7. Handling and storage
10.6. Hazardous decomposition products:	Carbon and sulfur oxides. For dangerous combustion products see Section 5. Hazardous decomposition products are generated in the case of dust ignition and fire. See also Section 5.2

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11. Toxicological information**11.1. Information on toxicological effects**

Acute toxicity: Not classified (Based on available data, classification criteria are not met).

Petroleum coke (64741-79-3)

LD50 /oral/ rat	> 5000 mg/kg
LD50 /dermal/ rabbit	> 3160 mg/kg
LC50 /inhalation/4h/ rat	100 mg/m ³

Local effect:

Skin corrosion/irritation:	Not classified (Based on available data, classification criteria are not met).
Severe eye damage/irritation:	Prolonged exposure may cause eye irritation. Not classified (Based on available data, classification criteria are not met).
Respiratory / skin sensitization:	Prolonged exposure may cause skin irritation. Not classified (Based on available data, classification criteria are not met).
Carcinogenicity:	Not classified (Based on available data, classification criteria are not met).
Germ cell mutagenicity:	Not classified (Based on available data, classification criteria are not met).
Reproductive toxicity:	Not classified (Based on available data, classification criteria are not met).
Specific target organ toxicity - single exposure:	Not classified (Based on available data, classification criteria are not met).
Specific target organ toxicity - repeated exposure:	Not classified (Based on available data, classification criteria are not met).
Aspiration hazard:	Not classified (Based on available data, classification criteria are not met).
Other information:	Dust may irritate eyes and respiratory tract. Symptoms related to physical, chemical and toxicological properties. See also Section 4.2. CHRONIC EFFECTS For the product: Dust may be irritating to eyes and respiratory tract. For Coke dust: Not carcinogenic in inhalation and dermal animal tests. Two year animal inhalation studies at high concentrations of coke dust showed accumulation of particles in lungs and inflammatory changes.

12. Ecological information

The product is not classified as hazardous to the environment.

12.1. Toxicity

Ecotoxic properties:	Not known or expected in the normal conditions of use. Not expected to be harmful to aquatic organisms. Not expected to demonstrate chronic toxicity to aquatic organisms.
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Petroleum coke (64741-79-3)

EC50 /acute	> 1000 mg/l (Daphnia - exposure 48 hours)
IC50 /acute	> 1000 mg/l (Algae - exposure 96 hours)
LC50 /acute	> 1000 mg/l (Fish - exposure 96 hours)

12.2. Persistence and degradability

Biodegradation:	The substance is not readily biodegradable. The product is expected to be stable.
Decomposition in the presence and absence of air:	No available data
Persistence:	No available data

12.3. Bioaccumulative potential

The product has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

12.4. Mobility in soil

No available data.

12.5. Results of PBT and vPvB assessment

This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT).

This mixture contains no components considered to be either very persistent or very bioaccumulative (vPvB)

12.6. Other adverse effects:

Other information: Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.

13. Disposal considerations**13.1. Waste treatment methods**

Waste disposal:	Product has no classic waste except in case of intentional release/ discharging.
Product residues:	Dispose of with caution. See also Section 7: Handling and storage. Dispose of in line with the local regulations.
Contaminated packaging:	Dispose of surplus and contaminated packaging via a licensed waste disposal contractor authorised to perform these activities by the competent environmental protection ministry. Dispose of in line with the local regulations.
Additional ecological information:	Avoid runoff and contact with sanitary sewer systems

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13.1.1 Product / Packaging disposal

Waste code/waste designation according to LoW (List of Waste) : Not known.

13.1.2 Waste treatment-relevant information

Non-hazardous waste. Apply appropriate procedures in accordance to requirements of environmental protection (eg. dispose by an authorized company).

Product waste:

It is foreseen that contaminated residues be thermally processed.

Disposed of in compliance with the respective national and local regulations.

Do not discharge into drains or sewage system.

Contaminated packaging:

Emptied containers are considered as non-hazardous waste and can be recycled or disposed to an approved waste disposal facility.

13.1.3 Other disposal recommendations

Do not dispose of with other industrial waste (see Section 10.5).

Compliance with EU, state or local laws and regulations must be ensured.

It is the user's responsibility to be informed of all applicable national and local laws and regulations.

14. Transport information

The product is not classified as hazardous according to transport regulations on hazardous substances.

14.1. UN number : Not applicable.**14.2. UN proper shipping name :** Not applicable.**14.3. Transport hazard class(es) :** Not applicable.**14.4. Packing group :** Not applicable.**14.5. Environmental hazards :**

ADR/RID/ADN/ICAO: Non-hazardous for environment.

IMDG: The product is non-hazardous for marine environment (non-HME).

14.6. Special precaution for user:

Comply with the measures listed in Section 7. Handling and storage. Transport in closed containers. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

ADR

Not applicable.

RID

Not applicable.

ADN

Not applicable.

IMDG

Not applicable.

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

Petroleum coke above 107 °C must not be placed in the ship's area.

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15. Regulatory information**15.1. Safety, health and environmental regulations****15.1.1 EU regulations**

Regulation (EC) 1907/2006, SL L 396/2006; Regulation (EU) 2015/830, SL L 132/2015; Regulation (EC) 1272/2008, SL L 353/2008; Regulation (EU) 98/2013, SL L 39/2013; Regulation (EC) 2003/2003, SL L 304/2003.

Authorisations: Not applicable.

Restrictions on use: Not known.

15.1.2 European Directives

Directive (EU) 2017/164, SL L 27/2017; Directive (EC) 2000/39, SL L 142/2000; Directive (EC) 2006/15, SL L 38/2006; Directive (EU) 2009/161, SL L 338/2009; Directive (EC) 2008/68, SL L 260/2008; Directive (EC) 2008/98, SL L 312/2008.

15.1.3 National regulations**15.1.4 International regulations**

UN Recommendations on the transport of dangerous goods.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

Risk management measures should be considered. The substance is not classified.

As the substance is not classified, the results of the chemical safety assessment are not available, but Guidance on Safe Use (GSU) instructions are available for storage, transport and use due to the potential generation of dust in a concentration that may be flammable.

Respiratory tract irritation and exposure by inhalation should be minimized by adhering to safe working practices and providing good ventilation.

Guidance on Safe Use issued by the manufacturer includes the warning for employees that over-exposure to dust may cause irritation of the respiratory tract, eyes and skin.

Respiratory tract irritation is a sign that it is necessary to reduce the degree of exposure.

The use of respiratory protection is recommended in cases where excessive exposure to coke dust is determined. In addition, CONCAWE recommends good occupational hygiene practice and is considered by CONCAWE to constitute measures that are routinely encountered and applied to meet the requirements of relevant workplace legislation in addition to specific risk management measures.

These may include, but are not limited to:

- Risk assessment of local workplace activities;
- Procedures supporting safe handling and maintenance of controls;
- Education and training of workers in understanding the hazards and control measures relevant to their activities;
- Provision of general ventilation;
- Good housekeeping and prompt clearance of spillages;
- Appropriate selection, testing and maintenance of equipment used to control exposure, e.g. Personal Protective Equipment (PPE), Local Exhaust Ventilation (LEV);



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- Draining of equipment prior to maintenance; retention of drained material in sealed storage pending disposal or recycling;
 - Regular supply and laundering of work clothing; provision of washing and changing facilities; Eating and smoking only in designated areas separate from the workplace.
- It is not listed as a substance covered by REACH Annex XVII restrictions.
It is not listed as a substance covered by REACH Annex XIV.

16. Other information

List of Abbreviations and Acronyms:

CAS Number is a unique numerical identifier assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature and recorded in the registry maintained by CAS (*Chemical Abstract Service - CAS*)
EC number or EINECS, ELINCS or NLP number is a unique numerical identifier assigned to substances within the European Union.

"H" statement – a set of standardized phrases (guidance) about the hazards describing the nature of hazards of chemical substance or mixture, including the level of hazards, where necessary.

"P" statements are written terms that describe the recommended measures to reduce or prevent adverse effects that may result from exposure to a hazardous substance or mixture during their use or disposal.

Full text of abbreviations and acronyms:

REACH =Registration, Evaluation, Authorisation and Restriction of Chemicals

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC.

ACGIH =American Conference of Governmental Industrial Hygienists

OSHA= Occupational Safety and Health Administration

ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road

(Accord européen relatif au transport international des marchandises Dangereuses par Route).

RID=Regulations Concerning the International Transport of Dangerous Goods by Rail

ADN = European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin)

IMDG = International Maritime Dangerous Goods Code.

IMO= International Maritime Organization

IATA = International Air Transport Association.

ICAO = International Civil Aviation Organization

Кодекс IBC=International Bulk Chemical Code

MARPOL=International Convention for the Prevention of Pollution from Ships

IUPAC=International Union for Pure and Applied Chemistry

OEL = Occupational exposure limit

IOELV = Indicative Occupational Exposure Limit Value

DMEL = Derived minimal effect level

DNEL = Derived No-Effect Level

PNEL=Predicted No-Effect Level

PNEC= Predicted No-Effect Concentration

LC50 = a lethal concentrations that kills 50% of test population

LD50 = a lethal dose that kills 50% of test population

EC50 = Half maximal effective concentration

ErC50= Half maximal growth inhibitory effective concentration.

EL50= Half-maximal effective level

ErL50= Half maximal growth inhibitory effective level.

NOAEC=No Observed Adverse Effect Concentration

NOAEL=No Observed Adverse Effect Level

NOEL = No Observed Effect Level

LEL = Lower Explosive Limit/Lower Explosion Limit

UEL = Upper Explosion Limit/Upper Explosive Limit

**PETROLEUM COKE**

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According to Regulation (EC) No 1907/2006

STEL = Short-Term Exposure Limit

TLV = Threshold Limit Value

TWA = Time Weighted Averages

PBT = criterion used to identify substances as persistent, bioaccumulative and toxic

vPvB = criterion used to identify substances as very persistent and very bioaccumulative

PPE = personal protective equipment

PPE = personal protective equipment

WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

UVCB substance - Substance of Unknown or Variable composition, Complex reaction products or Biological materials that cannot be sufficiently identified by its chemical composition, because of a relatively large number of constituents, unknown composition and/or relatively large or poorly predictable variability of composition. As a result, other type of information in addition to chemical composition is needed for the UVCB substance identification.

Note:

- Revision 1: Update of data after testing of product samples.

Training advice: Personnel handling the product must be familiar with its hazardous characteristics, product health and environmental protection principles and first aid principles. Train workers for safe and healthy work with chemicals in accordance with the Risk Assessment Act.

References:

1. European Chemicals Agency (www.echa.europa.eu)
2. European Chemical Substances Information System (<http://esis.jrc.ec.europa.eu/>)
3. Hazard classification and labeling of petroleum substances in the European Economic Area, Concawe – 2017 (<http://www.concawe.be>)

The safety data sheet contains important information for the health and safety of users as well as for the protection of the environment. Information contained herein is given to the best of our knowledge about the product. The product must not be used for purposes other than those specified in the instructions. If used with other products, additional hazards need to be inspected. We assume no responsibility for non-compliance with the statements in this Safety Data Sheet.

DISCLAIMER

The information provided in this safety data sheet is obtained from sources we believe to be reliable. However, regardless of their accuracy, we provide them without any express or implied guarantee. The conditions of use and methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume any liability and expressly disclaim any liability for loss, damage or expense incurred as a result of or in any way related to the handling, storage, use or disposal of this product. This safety data sheet has been created and can only be used for this product. If this product is used as a component of another product, the information in this safety data sheet may not be valid.

The content and format of this safety data sheet are in accordance with the Directives of the Commission EEC 1999/45 /EC, 67/548 /EC, 1272/2008 /EC and with the Regulation of the EEC Commission 1907/2006/EC (REACH) Annex.