SECTIÓN 1: Identification of the substance/mixture and of the company

1.1 Product identifier

Denominación química	Synthetic Graphite
Nombre comercial	Graphite, graphitized petroleum coke, graphite pellets (PGP) (PGS) and (PCR), Pellets graphitized petroleum coke (PCG)
CAS number	7782-42-5
EC number	231-955-3
Registration number	01-2119486977-12-0038
Synonyms	**None**

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

Identified uses	Carbon-based additive for metallurgical applications (additive recarburant), electrical applications (conductivity), temperature applications (protection and thermal management) and sealing applications. For a complete list of the uses identified in the registration dossier for the substance, see section 16.
Uses advised against	Do not use for purposes other than those described in this safety data sheet.

1.3 Details of the supplier of the safety data sheet

Business Name	GRAFITOS BARCO, S.A.
Address	C/ Conde Fenosa, 21 – 1º 32300 O Barco de Valdeorras (Orense) España
Phone	00 34 988320734
E-mail	grafitosbarco@grafitosbarco.com

1.4 EMERGENCY PHONE

Emergency Phone	National Institute of Toxicology: 0034 915620420 24 h/day

SECTIÓN 2: Hazards identification

2.1 Classification of the substance or mixture

No dangerous substance according to Regulation (EC) 1272/2008 as amended.

2.1.1 Major adverse physicochemical, human health and the environment

Physical hazards

Not classified for physical hazards.

Health hazards

Not qualified for health hazards. However, occupational exposure to the mixture or substance (s) may have adverse health effects. The dust and smoke generated from the material can enter the body by inhalation. At high concentrations, dust and fumes can irritate the throat and airways and cause coughing. Frequent inhalation of dust for a long time increases the risk of

developing lung diseases. Dust is formed occasionally, may irritate eyes and skin. Ingestion of dust generated during work operations can cause nausea and vomiting. Prolonged and repeated overexposure to dust may lead to pneumoconiosis.

Environmental hazards Not classified for hazards to the environment.

Specific hazards You may pre-existing lung disorders such as emphysema, can be increased if prolonged exposure to high concentrations of graphite powder, in case they occur.

Main symptoms Exposed may experience eye tearing, redness, and discomfort with possible contact with the suspended dust. Prolonged skin contact may cause temporary irritation.

2.2 Label elements

This substance does not meet the criteria of classification in accordance with the directive (CE) 1272/2008, with previous amendments.

2.3 Other hazards

No other known hazards. Not a PBT or mPmB substance.

SECTIÓN 3: Composition/information on ingredients

3.1 Substance

Chemical name	Content	CAS-No.	EC No.	REACH Registration No.
Synthetic graphite	> 98%	7782-42-5	231-955-3	01-2119486977-12-0038

SECTIÓN 4: First aid measures

4.1 Description of first aid measures

Inhalation If large amounts of dust inhaled move injured person into fresh air and keep person calm under observation. Oxygen administration may be necessary if breathing difficulties. If you have difficulty breathing, give artificial respiration.. Get medical attention. In case of persistent throat irritation or coughing seek medical attention and take along these instructions.

Skin contact Wash with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact Flush with water. Do not rub eye. If irritation occurs, get medical assistance.

Ingestion Drinking water. Get medical attention if any discomfort occurs.

4.2 Most important symptoms and effects, both acute and delayed

Dusts may irritate the respiratory tract, skin and eyes.

4.3 Indication of any immediate medical attention and special treatment needed

Ninguna.

SECTIÓN 5: Firefighting measures

5.1 General fire hazards

Suitable extinguishing media	Foam, carbon dioxide, dry powder or water spray.
Inadequate means	Avoid douse the flames with water jets.
General fire hazards	The material is not readily combustible, but can be flammable under certain conditions casual. See section 5.2 and Appendix I.

5.2 Special hazards arising from the substance or mixture

The powders can be formed when handling can be flammable to dispersed in the air in a cloud at high temperatures (see Annex I). In case of fire may be generated monoxide / carbon dioxide, so you have to be extremely careful in case they occur.

In case of fire, during combustion, Is generated monoxide / carbon dioxide this monoxide. Thermal decomposition of the graphite powder may produce smoke, carbon oxides and organic compounds of low molecular weight, composition has not been characterized. Although it is for rare circumstances, if dust cloud formation, they can be explosive, even at concentrations as low as 60g / m³ (Lower limit. Explosion). See accompanying analysis Annex 1.

UNE-EN 60079-10-2 on classification of areas by dust, combustible dust is defined as finely divided solid particles of nominal size of 500 microns or less, which can be suspended in the air, deposited by the action of its own weight, burn or be incandescent or form explosive mixtures with air at normal atmospheric pressure and temperature.

Powder are only explosive atmospheres within a range of concentrations. Not determined Upper explosion limit because it does not guarantee safe conditions:

- While a cloud with a very high concentration may not be explosive, the danger exists anyway, since the concentration may decrease and enter the range of inflammation. Depending on the circumstances, any source of leak (issue) need not necessarily produce an explosive atmosphere of dust.

- Powders that are separated by extraction or ventilation mechanisms, are layered or accumulations at a rate which depends, among other variables, the size of the particles. Keep in mind that a leak source (emission) or diluted small but continuous in time, may be able to produce potentially hazardous dust layer.

5.3 Advice for firefighters

Special protective equipment for firefighters	Use standard firefighting procedures and consider the hazards of other involved materials.
Special firefighting procedures	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTIÓN 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	The product may contain graphite powder, avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes Remove sources of ignition. Eliminate all sources of ignition. If dust generation, use protective mask.
For emergency responders	

6.2 Environmental precautions

Prevent material from entering water collecting, in the drains, groundwater or soil.

6.3 Methods and material for containment and cleaning up

Collect dust, that may form, using a vacuum cleaner equipped with HEPA filter. If not possible, gently moisten dust before it is collected with shovel, broom or the like. Consider whether the material can be reused or is a residue and, if so, collect in the container / suitable container. This will seal carefully and managed according to existing laws. Containers must be labeled. For waste disposal, see section 13.

6.4 Reference to other sections

For personal protection, see Section 8. For waste disposal, see Section 13.

SECTIÓN 7: Handling and storage

7.1 Precautions for safe handling

Use work methods which minimise dust production. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. Take precautionary measures against static discharges when there is a risk of dust explosion.

Handling and storage dust formation, which is capable, under special conditions may catch fire. This phenomenon can occur in a wide range of concentrations when I found suspended in air and a spark or ignition source occurs. The minimum energy is greater than 1 J. Avoid static discharges, if risk of dust explosion. Keep away from heat, sparks, open flames and other sources of ignition. Electrical equipment should be used explosion-proof if any of the circumstances set out in Annex 1 to occur

Graphite powder with a particle size from 4 to 40 microns are able to exploit a wide range of concentrations. The minimum ignition energy is 1kJ for the finest dust. Avoid accumulation of electrostatic charges, if risk of dust explosion. Keep away from heat, sparks, open flames and other ignition sources. Electrical equipment should be used to test explosion if dust levels are high in the air.

7.2 Conditions for safe storage, including any incompatibilities

Store closed in a cool, dry place. Keep away from incompatible materials such as strong oxidizing agents.

7.3 Specific end use(s)

No additional risks to those already described that are related to specific uses of the substance

SECTIÓN 8: CONTROLES DE EXPOSICIÓN/PROTECCIÓN INDIVIDUAL

8.1 Control parameters

Occupational exposure limits

Component	Cat.	Value
Synthetic graphite (Dust)	AGW	10 mg/m^3 (inhalable) 3 mg/m^3 (alveolic)

Biological limit values No substances are biological limits of exposure.
Recommended monitoring procedures Follow standard monitoring procedures.

DNEL
Workers 1.2 mg/m3 Inhalation (long exposure - local effects)
General Population 813 mg/kg bw/dia Oral (Long exposure - systemic effects)
0.3 mg/m3 Inhalación (Long exposure - local effects)

PNEC No data: Aquatic toxicity is unlikely.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Observe occupational exposure limits and minimize the risk of inhalation of dust and fumes. Ensure adequate ventilation. May require forced ventilation or local exhaust ventilation. Apply ventilation to prevent the explosion when high concentrations in the air. There should be easy access to a sink, where you have soap and moisturizer.

8.2.2 Individual protection measures, such as personal protective equipment

General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Wear safety glasses with side shields (or goggles).
Protección de las manos	Wear suitable protective gloves to prevent cuts and abrasions.
Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	Dust masks used with suitable pore size.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

8.2.3 Environmental exposure controls

Environmental manager must be informed of all significant spillages.

SECTIÓN 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	Powder, grain and blocks.
Physical state	Solid.
Colour	Grey.
Odour	Odourless.
Odour threshol	Not available.
pH	Not applicable.
Melting point/freezing point	> 600 °C
Boiling point	Not applicable.
Flash point	Section 5.2 and Annex I
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not flammable under the criteria of Regulation CE 1272/2008. (>400ºC). Section 5.2 and Annex I
Flammable Limits, upper and lower (%)	Section 5.2 and Annex I
Vapor Pressure	Not applicable.

Vapor Density	Not applicable.
Density	2,2136 g/cm³.
Solubility (Water)	Slightly soluble (0.1-100 mg/L)
Partition coefficient (N-octanol/water)	Not applicable.
Auto-ignition temperature	>400 ºC.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Explosive Properties	Is the formation of dust clouds. The minimum ignition energy is greater than 1J for fine dust. See Annex I.
Oxidizing properties	Not oxidizer. See section 5.2 and Appendix I.

9.2 Other information

No relevant additional information available.

SECTIÓN 10: Stability and reactivity

10.1 Reactivity of the substance
Stable at normal conditions.

10.2 Chemical stability
Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

Will not occur., when used and handled according to the descriptions.
Mixtures may form explosive dust / air where airborne concentrations are above 60 g/m3. See section 5.2 and Annex I..

10.4 Conditions to avoid
Dust is combustible, avoid sources of ignition and strong oxidizing agents

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products
Thermal decomposition may produce smoke, carbon oxides and organic compounds of low molecular weight whose composition has not been characterized. They can form explosive dust mixtures. See section 5.2 and Annex I.

SECTIÓN 11: Toxicological information

11.1 Information on toxicological effects

11.1.1 Acute toxicity

Oral	LD50ratón >2000 mg/kg. – Study according to OECD Guidelines 423, classic method of acute oral toxicity. According to the results of the study and the criteria of the CLP Regulation, the substance is not toxic by ingestion.

Inhalatión LC50ratón >2000 mg/m3. – Study according to OECD Guidelines 403, standard method of acute toxicity by inhalation. According to the results of the study and the criteria of the CLP Regulation, the substance is not toxic by inhalation. However, high concentrations of dust may irritate throat and respiratory system and cause coughing. Prolonged and repeated overexposure to dust may lead to pneumoconiosis.

Skin contact Dust may irritate skin. May cause irritation through mechanical abrasion.
Symptoms Exposed may experience eye tearing, redness, and discomfort. Exposed may experience itching and redness. Nausea, vomiting.

11.1.2 Skin corrosion/irritation

According to a study conducted with rabbits semi occlusive CHBB Crl Russian, according to the guide 404 of the OECD (2002) and Part B.4. Regulation (EC) 440/2008, the substance is not irritating or corrosive to the skin, according to the criteria of Regulation 1272/2008 (CLP).

11.1.3 Serious eye damage/eye irritation

According to a study with rabbits CHBB Crl Russian, according to the guide 405 of the OECD (2002) and Part B.5. Regulation (EC) 440/2008, the substance is not an eye irritant, according to the criteria of Regulation 1272/2008 (CLP).

11.1.4 Respiratory and skin sensitization

According to a study of BALB / c, equivalent or similar to the guide 429 of the OECD (2002), the substance is not a skin sensitizer according to the criteria of Regulation 1272/2008 (CLP).
Nor is there evidence that the substance or its dusts are respiratory sensitizer.

11.1.5 Germ cell mutagenicity

According to a study Salmonella typhimurium (TA 1535, TA 1537, TA 98 y TA 100), according to the guide 471 de la OCDE (Ensayo de Mutación Inversa en Bactérias) and method B.13/14 Regulation (CE) 440/2008The substance is not mutagenic, according to the criteria of Regulation 1272/2008 (CLP).

11.1.6 Carcinogenicity

No carcinogenic effects of the substance or dust are known.

11.1.7 Reproductive toxicity

According to several studies with Wistar rats, according to the guide 422 of the OECD , the substance has a NOAEL of 11,500 mg / kg (food), so it is not considered toxic to reproduction or development, according to the criteria of Regulation 1272/2008 (CLP).

11.1.8 Specific target organ toxicity (STOT) - single exposure

There are no known toxic effects in organs, caused by the substance or powder.

11.1.9 Specific target organ toxicity - single exposure

No toxic effects are known in the organs, caused by the substance or its powder

11.1.10 Aspiration hazard

No toxic effects are known by the aspiration of the substance or powder

11.1.11 Other information

Prolonged and repeated overexposure to dust can lead to pneumoconiosis. Pre-existing pulmonary disorders, such as emphysema, may possibly be aggravated by prolonged exposure to high concentrations of graphite dusts.

SECTIÓN 12: Ecological information

12.1 Toxicity

Aquatic toxicity to fish - short term:
LC50 (96h) > 100 mg/L / NOEC (96h) > 100 mg/L

Toxicity of aquatic invertebrates (Daphnia) - short term:
NOEC (48h) >= 100 mg/L / LOEC (48h) > 100 mg/L / EC50 (48h) > 100 mg/L

Aquatic toxicity in algae and cyanobacteria:
NOEC (72h) > 100 mg/L / LOEC (72h) > 100 mg/L / EC50 (72h) > 100 mg/L

Toxicity to microorganisms:
EC20 (3h) > 1012.5 mg/L / EC50 (3h) > 1012.5 mg/L / EC80 (3h) > 1012.5 mg/L

According to previous data, neither the substance nor its dust are classified as toxic to the aquatic environment, according to the criteria of Regulation CLP.

12.2 Persistence and degradability

Not applicable.

12.3 Bioaccumulative potential

Not applicable.

12.4 Mobility

Not applicable.

12.5 Results of PBT and mPmB assessment

The substance does not meet the requirements for classification as PBT or mPmB

12.6 Other adverse effects

The product is not expected to be hazardous to the environment.

SECTIÓN 13: Disposal considerations

13.1 Waste treatment methods

Product	Remove accordance with the Directive 2008/98/EC on the disposal of waste or other Community, national and regional provisions in force
Packaging	Remove accordance with the Directive 2008/98/EC on the disposal of waste or other Community, national and regional provisions in force

SECTIÓN 14: Transport information

The product **is not classified as hazardous** under any international agreements on the transport of dangerous goods (ADR/RID, ADN/ADNR, IMDG, ICAO/IATA).

14.1 ONU NUMBER

Not applicable.

14.2 OFFICIAL DESIGNATION OF UNITED NATIONS TRANSPORT

Not applicable.

14.3 CLASS OF PACKAGING
Not applicable.

14.4 PACKAGING GROUP
Not applicable.

14.5 ENVIRONMENTAL HAZARDS
See Section 6

14.6 SPECIAL PRECAUTIONS FOR USERS

See Sections 6 and 7

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTIÓN 15: Regulatory information

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

The substance is not listed in any of the following inventories / lists:

- Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II
- Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I
- Regulation (EC) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, part 1,2,3 and 5.
- Directive 2008/1/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registery (EPER)
- Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate List
- Substances subject to authorization in accordance with Annex XIV to Regulation (CE) no 1907/2006 (REACH)
- Restricted substances under Annex XVII of Regulation (CE) no 1907/2006 (REACH)

15.2 Chemical safety assessment

It has carried out the exposure assessment, as this was not mandatory because the graphite does not meet the criteria for classification as hazardous according to the CLP Regulation. In this way, will not be attached exposure scenarios.

SECTIÓN 16: Other information

Modifications compared to the previous tab
Changes have been made and information has been added to all sections of this SDS.
The format complies with the REACH Regulation and make amends Regulation (UE) 2015/830.

List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienistics
CAS: Chemical Abstracts Service.
TWA: Time Weighted Average.
DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
NOAEL: No observed adverse effect level.
LC50: concentration lethal to 50%
EC20: effective concentration 20.
EC50: effective concentration.
EC80: effective concentration 80.
NOEL: No observed effect level.
LOEC: Observation concentration minimal effect.

CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
PBT: Persistent Bioaccumulative and Toxic.
mPmB:Very Persistent and Very Bioaccumulative.

References REACH registration dossier.

Uses identified in the registration dossier for REACH: See Annex II.

Information on training workers:
Maintenance personnel and production plant has received information and training on safety instructions in plant and equipment

User Notes
GRAFITOS BARCO, Inc. ADVISED TO USERS OF THIS PRODUCT TO EXAMINE CAREFULLY SAFETY DATA SHEET AND BE AWARE OF POTENTIAL RISKS OF PRODUCT AND SAFETY INFORMATION. TO PROMOTE THE SAFE USE OF THIS PRODUCT USERS SHOULD NOTIFY EMPLOYEES, AGENTS AND CONTRACTORS THE INFORMATION CONTAINED IN THIS SAFETY DATA SHEET AND ANY INFORMATION AVAILABLE ON THE RISKS AND SAFETY.

Disclaimer Clause
It is your responsibility to assess whether the information in this safety data sheet complies with the requirements for a specific application other than those listed.

ANNEX I.

ANALYSIS OF EXPLOSIVE

Graphite is a product classified as an explosive. However, in powder form mixed with air is flammable and may form explosive atmospheres if certain conditions relating to temperature, concentration of the dust particles, energy and pressure, which are shown in the table of test results conducted by the official laboratory JM Madariga.

Laboratorio Oficial J.M. Madariga

CARACTERIZACION DE SOLIDOS INFLAMABLES

Datos de seguridad medidos

Muestra:	POLVO DE GRAFITO
Identificación LOM:	GAB-4
Sometida a ensayo por:	GRAFITOS BARCO, S.A.
Humedad:	0,5 %
Tamaño medio de partícula:	19,1 µm
Protocolo:	LOM 12.484 EP
Informe:	LOM 12SOLI4240
Fecha:	2012-10-23

Parámetro	Norma	Valor	Unidades
Temperatura mínima de inflamación en capa	UNE-EN 50281-2-1:1999	**> 400**	ºC
Temperatura mínima de inflamación en nube	UNE-EN 50281-2-1:1999	**> 900**	ºC
Límite inferior de explosividad	UNE-EN 14034-3:2006	**60**	g/m^3
Energía mínima de inflamación	UNE-EN 13821:2003	**> 1000**	mJ
Presión máxima de explosión	UNE-EN 14034-1:2005	**5,4**	bar g
Kmax	UNE-EN 14034-2:2006	**118**	bar.m/s

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)

C/ Eric Kandel, 1 - 28906 Getafe (Madrid)• (34) 91 4421366 • (34) 91 4419933 • lom@lom.upm.es

Parameter	Norm	Value	Units
Minimum temperature of inflammation of layer	UNE-EN 50281-2-1:1999	>400	ºC
Minimum temperature of inflammation in cloud	UNE-EN 50281-2-1:1999	>900	ºC
Lower explosive limit	UNE-EN 14034-3:2006	60	g/m^3
Minimum energy of inflammation	UNE-EN 13821:2003	>1000	mj
Explosion maximum pressure	UNE-EN 14034-1:2005	5,4	bar g
Kmax	UNE-EN 14034-2:2006	118	bar m/s

IU number	Identified Use name	Use descriptors
1	Manufacture of synthetic graphite or expanded graphite (flakes) (Thermal treatment of graphite intercalation compounds and/or carbonaceous materials)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 2: Use in closed, continuous process with occasional controlled exposure **Environmental release category (ERC):** ERC 1: Manufacture of substances **Subsequent service life relevant for that use?:** no
2	Thermal treatment (Thermal treatment, incl. charging and discharging) and subsequent use as an article (e.g. gaskets, foils, electrical applications, metallurgical applications)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 26: Handling of solid inorganic substances at ambient temperature PROC 3: Use in closed batch process (synthesis or formulation) **Environmental release category (ERC):** ERC 5: Industrial use resulting in inclusion into or onto a matrix **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 0: Other: Chemical equipment
3	Formulation of mixtures (Mixing of graphite powder with additional components)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials **Subsequent service life relevant for that use?:** no
4	Manufacture of synthetic graphite	**Process category (PROC):** PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 3: Use in closed batch process (synthesis or formulation)

	(powder) or expanded graphite (powder) (Machining/milling of graphite articles)	**Environmental release category (ERC):** ERC 1: Manufacture of substances **Subsequent service life relevant for that use?:** no
5	Processing of expanded or synthetic graphite (substance) (Milling and sieving of graphite powder)	**Process category (PROC):** PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles **Environmental release category (ERC):** ERC 1: Manufacture of substances **Subsequent service life relevant for that use?:** no
6	Use as substance or in preparations (e.g. lubricants, conductive materials, recarburiser, casting powder, ramming mass, grouts, cements, mouldables)	**Process category (PROC):** PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 24: Lubricants, greases, release products PC 1: Adhesives, sealants PC 7: Base metals and alloys PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 32: Polymer preparations and compounds PC 0: Other: Loss circulation material **Environmental release category (ERC):** ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 7: Industrial use of substances in closed systems **Subsequent service life relevant for that use?:** no
7	Calendering/ moulding operations (Compression of graphite as substance or in preparations (production of articles)) and subsequent use as an article (e.g. gaskets, foils, electrical applications, metallurgical applications)	**Process category (PROC):** PROC 6: Calendering operations PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation **Environmental release category (ERC):** ERC 5: Industrial use resulting in inclusion into or onto a matrix **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 0: Other: Chemical equipment
8	Distribution and handling of graphite	**Process category (PROC):** PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

	(substance) (Bulk loading and unloading, repacking, sampling and storage of graphite powder)	PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **Environmental release category (ERC):** ERC 1: Manufacture of substances **Subsequent service life relevant for that use?:** no
9	Standard use by refractory producer	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 0: Other: PC 10: Building and construction preparation not covered elsewhere, and PC 0: Other products **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 0: Other: NACE C23.2 (manufacturing of refractory products) **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 0: Other: AC 12-1, AC 0
10	Standard use by refractory user	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

		PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 13: Treatment of articles by dipping and pouring PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 0: Other: PC 10: Building and construction preparations not covered elsewhere, and PC 0: Other products **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 14: Manufacture of basic metals, including alloys SU 0: Other: SU 0-1 **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 0: Other: AC 12-1, AC 0
11	Engineering materials: friction materials	**Process category (PROC):** PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 7: Base metals and alloys PC 32: Polymer preparations and compounds PC 0: Other: other **Environmental release category (ERC):** ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6b: Industrial use of reactive processing aids ERC 1: Manufacture of substances

		ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) **Sector of end use (SU):** SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 0: Other: TARIC Code: 6813810000, 681381, AC 30
12	Engineering materials: powder metallurgy	**Process category (PROC):** PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 26: Handling of solid inorganic substances at ambient temperature PROC 27a: Production of metal powders (hot processes) PROC 27b: Production of metal powders (wet processes) PROC 3: Use in closed batch process (synthesis or formulation) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 7: Industrial spraying PROC 25: Other hot work operations with metals **Market sector by type of chemical product:** PC 7: Base metals and alloys PC 24: Lubricants, greases, release products PC 32: Polymer preparations and compounds PC 19: Intermediate PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 1: Manufacture of substances ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix **Sector of end use (SU):**

		SU 4: Manufacture of food products SU 7: Printing and reproduction of recorded media SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion SU 15: Manufacture of fabricated metal products, except machinery and equipment SU 16: Manufacture of computer, electronic and optical products, electrical equipment SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU 18: Manufacture of furniture SU 14: Manufacture of basic metals, including alloys **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 7: Metal articles
13	Engineering materials: powder for lubricants	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 17: Lubrication at high energy conditions and in partly open process PROC 18: Greasing at high energy conditions PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals PROC 26: Handling of solid inorganic substances at ambient temperature PROC 15: Use as laboratory reagent PROC 12: Use of blowing agents in manufacture of foam PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected PROC 6: Calendering operations **Market sector by type of chemical product:** PC 8: Biocidal products (e.g. disinfectants, pest control) PC 9a: Coatings and paints, thinners, paint removes PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products

		PC 16: Heat transfer fluids PC 17: Hydraulic fluids PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 24: Lubricants, greases, release products PC 25: Metal working fluids PC 31: Polishes and wax blends PC 32: Polymer preparations and compounds PC 35: Washing and cleaning products (including solvent based products) PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 1: Adhesives, sealants PC 0: Other: PC 6, PC 10 PC 9b: Fillers, putties, plasters, modelling clay PC 19: Intermediate **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6b: Industrial use of reactive processing aids ERC 6c: Industrial use of monomers for manufacture of thermoplastics ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC 7: Industrial use of substances in closed systems ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 9a: Wide dispersive indoor use of substances in closed systems ERC 9b: Wide dispersive outdoor use of substances in closed systems ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 1: Manufacture of substances ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 7: Metal articles AC 13: Plastic articles AC 0: Other: AC 39
14	Engineering materials: powder for lubricants: Industrial formulation and (re)packaging of lubricants, greases and car care products	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large

		containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 15: Use as laboratory reagent **Market sector by type of chemical product:** PC 17: Hydraulic fluids PC 24: Lubricants, greases, release products PC 25: Metal working fluids **Environmental release category (ERC):** ERC 2: Formulation of preparations **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) **Subsequent service life relevant for that use?:** no
15	Engineering materials: powder for lubricants: Use of lubricants in vehicles or machinery	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 1: Use in closed process, no likelihood of exposure PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 11: Non industrial spraying PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems **Market sector by type of chemical product:** PC 17: Hydraulic fluids PC 24: Lubricants, greases, release products **Environmental release category (ERC):** ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 7: Industrial use of substances in closed systems **Subsequent service life relevant for that use?:** no
16	Engineering materials: powder for lubricants: Application of lubricants without exposure to heat	**Process category (PROC):** PROC 7: Industrial spraying PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 11: Non industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities **Market sector by type of chemical product:** PC 24: Lubricants, greases, release products **Environmental release category (ERC):**

		ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 9a: Wide dispersive indoor use of substances in closed systems ERC 9b: Wide dispersive outdoor use of substances in closed systems **Subsequent service life relevant for that use?:** no
17	Engineering materials: powder for lubricants: Use of lubricants in high temperature open process	**Process category (PROC):** PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 13: Treatment of articles by dipping and pouring **Market sector by type of chemical product:** PC 24: Lubricants, greases, release products PC 25: Metal working fluids **Environmental release category (ERC):** ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles **Subsequent service life relevant for that use?:** no
18	Engineering materials: powder for lubricants: Handling and dilution of metalworking fluid concentrates	**Process category (PROC):** PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities **Market sector by type of chemical product:** PC 25: Metal working fluids **Environmental release category (ERC):** ERC 2: Formulation of preparations **Subsequent service life relevant for that use?:** no
19	Engineering materials: powder for lubricants: Use of lubricants in high energy/high speed open processes	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 17: Lubrication at high energy conditions and in partly open process PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities **Market sector by type of chemical product:** PC 24: Lubricants, greases, release products PC 25: Metal working fluids **Environmental release category (ERC):** ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 8a: Wide dispersive indoor use of processing aids in open systems **Subsequent service life relevant for that use?:** no
20	Engineering materials: powder for	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure

	lubricants: Use in cleaning agents	PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 11: Non industrial spraying **Market sector by type of chemical product:** PC 0: Other: PC 6 PC 3: Air care products PC 4: Anti-freeze and de-icing products PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 24: Lubricants, greases, release products PC 35: Washing and cleaning products (including solvent based products) **Environmental release category (ERC):** ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8b: Wide dispersive indoor use of reactive substances in open systems **Subsequent service life relevant for that use?:** no
21	Engineering materials: powder for lubricants: Ice prevention and deicing applications	**Process category (PROC):** PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 11: Non industrial spraying PROC 17: Lubrication at high energy conditions and in partly open process PROC 18: Greasing at high energy conditions PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems **Market sector by type of chemical product:** PC 17: Hydraulic fluids PC 24: Lubricants, greases, release products PC 25: Metal working fluids **Environmental release category (ERC):** ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 9a: Wide dispersive indoor use of substances in closed systems ERC 9b: Wide dispersive outdoor use of substances in closed systems **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators

		AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 1: Vehicles AC 0: Other: TARIC: 3403
22	Engineering materials: carbon brushes	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 1: Adhesives, sealants PC 7: Base metals and alloys PC 9a: Coatings and paints, thinners, paint removes PC 19: Intermediate PC 21: Laboratory chemicals PC 35: Washing and cleaning products (including solvent based products) PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 0: Other: UCN: F40100, E07300 PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 6c: Industrial use of monomers for manufacture of thermoplastics ERC 9a: Wide dispersive indoor use of substances in closed systems ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6b: Industrial use of reactive processing aids ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 16: Manufacture of computer, electronic and optical products, electrical equipment

		SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 1: Vehicles AC 0: Other: 0: other, 30, TARIC 9603
23	Engineering materials: Hard metals and ceramics	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 26: Handling of solid inorganic substances at ambient temperature PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature **Market sector by type of chemical product:** PC 7: Base metals and alloys PC 0: Other: Other: PC 10 **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 3: Formulation in materials ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 7: Industrial use of substances in closed systems ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) **Sector of end use (SU):** SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 14: Manufacture of basic metals, including alloys SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

		SU 23: Electricity, steam, gas water supply and sewage treatment SU 15: Manufacture of fabricated metal products, except machinery and equipment SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU 20: Health services SU 2a: Mining (without offshore industries) SU 2b: Offshore industries **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 4: Stone, plaster, cement, glass and ceramic articles AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 7: Metal articles AC 3: Electrical batteries and accumulators AC 0: Other: AC 12-1, TARIC: 8536, 9021, 8459, 8486, 8460, 8465
24	Engineering materials: EM others	**Process category (PROC):** PROC 27a: Production of metal powders (hot processes) PROC 27b: Production of metal powders (wet processes) PROC 3: Use in closed batch process (synthesis or formulation) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 18: Ink and toners PC 37: Water treatment chemicals PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 9b: Fillers, putties, plasters, modelling clay **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 15: Manufacture of fabricated metal products, except machinery and equipment SU 19: Building and construction work **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):**

		AC 0: Other: TARIC: 8311, 2500, 2521, 2523, 6810
25	Engineering materials: Catalysts	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 13: Treatment of articles by dipping and pouring PROC 15: Use as laboratory reagent PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 25: Other hot work operations with metals PROC 26: Handling of solid inorganic substances at ambient temperature PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 10: Roller application or brushing **Market sector by type of chemical product:** PC 37: Water treatment chemicals PC 36: Water softeners **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6b: Industrial use of reactive processing aids ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix **Sector of end use (SU):** SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 9: Manufacture of fine chemicals SU 14: Manufacture of basic metals, including alloys SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 23: Electricity, steam, gas water supply and sewage treatment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 0: Other: TARIC: 3815
51	Mobile energy:	**Process category (PROC):**

	alkaline batteries	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) **Market sector by type of chemical product:** PC 0: Other: other **Environmental release category (ERC):** ERC 0: Other: other **Sector of end use (SU):** SU 16: Manufacture of computer, electronic and optical products, electrical equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators
52	Mobile energy: Li-ion batteries	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities **Market sector by type of chemical product:** PC 19: Intermediate PC 14: Metal surface treatment products, including galvanic and electroplating products PC 0: Other: other **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 16: Manufacture of computer, electronic and optical products, electrical equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators
53	Mobile energy: fuel cells	**Process category (PROC):** PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendering operations PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles

		Market sector by type of chemical product: PC 32: Polymer preparations and compounds PC 0: Other: UCN S65100 **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion SU 16: Manufacture of computer, electronic and optical products, electrical equipment SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU 2a: Mining (without offshore industries) SU 2b: Offshore industries **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators
54	Mobile energy: alkaline batteries	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 26: Handling of solid inorganic substances at ambient temperature PROC 27a: Production of metal powders (hot processes) PROC 27b: Production of metal powders (wet processes) **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators
57	Mobile energy: fuel cells	**Process category (PROC):**

		PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendering operations PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 19: Hand-mixing with intimate contact and only PPE available. PROC 21: Low energy manipulation of substances bound in materials and/or articles **Market sector by type of chemical product:** PC 32: Polymer preparations and compounds PC 0: Other: other **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 2a: Mining (without offshore industries) SU 2b: Offshore industries SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion SU 16: Manufacture of computer, electronic and optical products, electrical equipment SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators
58	Carbon additives for polymers: plastics	**Process category (PROC):** PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendering operations PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation **Market sector by type of chemical product:** PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

		Sector of end use (SU): SU 12: Manufacture of plastics products, including compounding and conversion **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 13: Plastic articles
59	Engineering materials: carbon brushes	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 1: Use in closed process, no likelihood of exposure PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 7: Industrial spraying PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 25: Other hot work operations with metals PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 1: Adhesives, sealants PC 7: Base metals and alloys PC 9a: Coatings and paints, thinners, paint removes PC 19: Intermediate PC 21: Laboratory chemicals PC 35: Washing and cleaning products (including solvent based products) PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 0: Other: UCN F40100, E07300 PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 1: Manufacture of substances ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates)

		ERC 6b: Industrial use of reactive processing aids ERC 6c: Industrial use of monomers for manufacture of thermoplastics ERC 9a: Wide dispersive indoor use of substances in closed systems **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement SU 16: Manufacture of computer, electronic and optical products, electrical equipment SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 1: Vehicles AC 0: Other: AC 30, TARIC 9603
60	Carbon additives for polymers: coatings and paints	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 10: Roller application or brushing PROC 7: Industrial spraying PROC 13: Treatment of articles by dipping and pouring **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 18: Ink and toners PC 24: Lubricants, greases, release products PC 0: Other: PC 10, PC 5 **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8a: Wide dispersive indoor use of processing aids in open systems **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 19: Building and construction work SU 23: Electricity, steam, gas water supply and sewage treatment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 0: Other: AC 12-1, 12-2

		AC 13: Plastic articles
63	Carbon additives for polymers: plastics	**Process category (PROC):** PROC 25: Other hot work operations with metals PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 1: Use in closed process, no likelihood of exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent PROC 6: Calendering operations PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 21: Low energy manipulation of substances bound in materials and/or articles **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 8: Biocidal products (e.g. disinfectants, pest control) PC 0: Other: PC 5 PC 9c: Finger paints PC 1: Adhesives, sealants PC 11: Explosives PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 2: Formulation of preparations ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing) **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion SU 15: Manufacture of fabricated metal products, except machinery and equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 13: Plastic articles AC 3: Electrical batteries and accumulators AC 5: Fabrics, textiles and apparel

		AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 0: Other: Other:AC 12
64	Carbon Additives for polymers: rubber	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **Market sector by type of chemical product:** PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 2: Formulation of preparations **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 11: Manufacture of rubber products **Subsequent service life relevant for that use?:** no
67	Manufacture of graphite powder (thermal treatment of carbonaceous powder)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure **Environmental release category (ERC):** ERC 1: Manufacture of substances **Subsequent service life relevant for that use?:** no
68	Preparation of brine	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) **Environmental release category (ERC):** ERC 6b: Industrial use of reactive processing aids **Sector of end use (SU):** SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) **Subsequent service life relevant for that use?:** no
69	Electrolysis process and obtaining chlorine and caustic soda	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure **Environmental release category (ERC):** ERC 6b: Industrial use of reactive processing aids **Sector of end use (SU):** SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) **Subsequent service life relevant for that use?:** no
70	Use in preparations(hot	**Process category (PROC):** PROC 18: Greasing at high energy conditions

	metal forming, mobile energy(can contain dispersions), carbon additives for polymers (rubbers)	PROC 17: Lubrication at high energy conditions and in partly open process PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected PROC 15: Use as laboratory reagent PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 13: Treatment of articles by dipping and pouring PROC 12: Use of blowing agents in manufacture of foam PROC 11: Non industrial spraying PROC 10: Roller application or brushing PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 7: Industrial spraying PROC 6: Calendering operations PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 3: Use in closed batch process (synthesis or formulation) PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 1: Use in closed process, no likelihood of exposure PROC 0: Other: PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 18: Ink and toners PC 24: Lubricants, greases, release products PC 25: Metal working fluids PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC 31: Polishes and wax blends PC 32: Polymer preparations and compounds PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 0: Other: PC 5, UCN Code: A55000, A55100, E07300, F12100, F20000, F45000, F45200, F45300, I05300, I15000, M05000, M05143, P10050, S45200, S45000) **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 5: Industrial use resulting in inclusion into or onto a matrix ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

		ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 11: Manufacture of rubber products SU 12: Manufacture of plastics products, including compounding and conversion SU 15: Manufacture of fabricated metal products, except machinery and equipment SU 16: Manufacture of computer, electronic and optical products, electrical equipment SU 23: Electricity, steam, gas water supply and sewage treatment SU 0: Other: NACE Code: C20, C22, C23, C24, C25, C26 **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 5: Fabrics, textiles and apparel AC 10: Rubber articles AC 13: Plastic articles AC 0: Other: AC 12, TARIC Sections VI, VII, XVI as specified by the customer 3801

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