

Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date: 10.08.2018

Version number 3

Revision: 10.08.2018

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

1.1. Product identifier

Trade name: **FLEXICORD ROC DUR C06**
FLEXICORD ROC DUR C012

Article code: 982175147000, 982175247000

1.2. Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the mixture: Flexible cord for thermal spray application.

Uses advised against: Other uses than the identified uses indicated above.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Saint-Gobain Coating Solutions
50, rue du Mourelet, Z.I. Courtine Mourre Frais, B.P. 90966
84093 Avignon Cedex 9, France
Telephone: +33 (0) 4 90 85 85 00 (8:00-17:00)
Fax: +33 (0) 4 90 82 94 52

Further information obtainable from: qehs.coating-solutions@saint-gobain.com

1.4. Emergency telephone number

London, Medical toxicology information service (NHS)
Tel (24 hour): 020 7188 0300

* **SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:



GHS08 health hazard

Resp. Sens. 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 2	H351 Suspected of causing cancer.
STOT RE 1	H372 Causes damage to organs through prolonged or repeated exposure.

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GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

The product is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS08

Signal word: Danger

Hazard-determining components of labelling:

nickel

cobalt

Hazard statements:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P405 Store locked up.

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2.3. Other hazards

Under its present form the product is inert.

During thermal spraying application, the organic components of the products are destroyed.

The inorganic part is fused and sprayed on the substrate and will consist in a functional coating.

The thermal spraying operation must be controlled.

Results of PBT and vPvB assessment:

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

* SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:			
CAS: 7440-02-0 EINECS: 231-111-4 Reg.no.: 01-2119438727-29	nickel	Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 3, H412	≥15-≤70%
CAS: 7440-47-3 EINECS: 231-157-5 Reg.no.: 01-2119485652-31	chromium	substance with a community workplace exposure limit	10-25%
CAS: 7440-33-7 EINECS: 231-143-9	tungsten	Flam. Sol. 1, H228; Self-heat. 2, H252	10-25%
CAS: 7440-48-4 EINECS: 231-158-0 Reg.no.: 01-2119517392-44	cobalt	Resp. Sens. 1, H334 Skin Sens. 1, H317 Aquatic Chronic 4, H413	≥2.5-<10%
CAS: 7440-21-3 EINECS: 231-130-8 Reg.no.: 01-2119480401-47	silicon	substance with a community workplace exposure limit	≥2.5-<10%
CAS: 7439-96-5 EINECS: 231-105-1	manganese	substance with a community workplace exposure limit	≥0.1-<10%

Additional information: For the wording of the listed hazard phrases refer to section 16.

* SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

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After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of allergic symptoms in the breathing area, seek medical advice immediately.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.
Seek medical attention in case of problems or if problems persist.

After eye contact:

Protect unharmed eye.
Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical attention in case of problems or if problems persist.

After swallowing:

Rinse mouth.
Seek immediate medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Allergic reactions
Prolonged or repetitive skin contact may cause skin defatting or dermatitis.
In case of exposure to dust:
Coughing
Difficulties of breathing
Rhinitis
Sinusitis
Asthma

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

First Aid, decontamination, treatment of symptoms.

* **SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing agents:
Special powder for metal fires. Do not use water.
Sand or earth may be used for small fires only.

For safety reasons unsuitable extinguishing agents: Water

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5.2. Special hazards arising from the substance or mixture

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Metal oxide fume

Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Protective equipment:

Do not inhale explosion gases or combustion gases.

Wear a self-contained breathing apparatus and chemical resistant suit.

Additional information: Move undamaged containers from immediate hazard area if it can be done safely.

* SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid any contact with eyes or skin.

Provide adequate ventilation as well as local exhaust at critical locations.

Avoid formation of dust.

6.2. Environmental precautions Dumping into the environment must be prevented.

6.3. Methods and material for containment and cleaning up

Cleaning up only by authorised personal.

Use approved industrial vacuum cleaner for removal.

Remove mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

* SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of dust.

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Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid any contact with skin and eyes.
Ensure adequate ventilation.
During thermal spraying operation:
Enclosure or extractor facilities are required.
Wear personal protective equipment. See section 8.

Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles:
Store only in the original container.
Storage temperature: 10-32°C
Humidity: 35-55%

Information about storage in one common storage facility:
Keep away from food, drink and animal feeding stuffs.
See section 10.5.

Further information about storage conditions:
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Protect from humidity and water.
Store under lock and key and with access restricted to technical experts or their assistants only.
Ensure that local, federal and national legislation on storage conditions are observed.

Storage class: 6.1D Incombustible toxic or chronic active substances (TRGS 510 DE)

7.3. Specific end use(s) See section 1.

* SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities:
Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.

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8.1. Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 7440-02-0 nickel	
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Ni; Sk; Carc
CAS: 7440-47-3 chromium	
WEL (Great Britain)	Long-term value: 0.5 mg/m ³
IOELV (EU)	Long-term value: 2 mg/m ³ as Cr
CAS: 7440-33-7 tungsten	
WEL (Great Britain)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W
CAS: 7440-48-4 cobalt	
WEL (Great Britain)	Long-term value: 0.1 mg/m ³ as Co; Carc, Sen
CAS: 7440-21-3 silicon	
WEL (Great Britain)	Long-term value: 10* 4** mg/m ³ *inhalable dust **respirable dust
CAS: 7439-96-5 manganese	
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Mn
IOELV (EU)	Long-term value: 0.2* 0.05** mg/m ³ as Mn; *inhalable, **respirable fraction

Regulatory information:

WEL (Great Britain): EH40/2011

IOELV (EU): (EU) 2017/164

DNELs		
CAS: 7440-02-0 nickel		
Dermal	DNEL - long term - local	0.035 mg/cm ² (worker)
Inhalative	DNEL - long term - local	0.05 mg/m ³ (worker)
	DNEL - long term - systemic	0.05 mg/m ³ (worker)
	DNEL - short term - local	11.9 mg/m ³ (worker)

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PNECs	
CAS: 7440-02-0 nickel	
PNEC	3.55 µg/l (fresh water) 8.6 µg/l (marine water)
PNEC	29.9 mg/kg (soil) 0.33 mg/kg (sewage treatment plant)

8.2. Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Ensure adequate ventilation.

Wear personal protection equipment.

Avoid contact with the eyes and skin.

Do not breathe dust/fume/gas/mist/vapours/spray.

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

Ensure that washing facilities are available at the work place.

Wash hands before breaks and at the end of work.

Respiratory protection:

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, a self-contained breathing apparatus must be used!

Suitable respiratory protective equipment:

FFP3

Protection of hands:

Tested protective gloves are to be worn. When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code. Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves:

Nitrile rubber, NBR

During thermal spraying operation:

Leather gloves

Gloves resistant to heat

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Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses

During thermal spraying operation:

UV-protection glasses

Face shield

Body protection:

Protective work clothing

During thermal spraying operation:

Flame-retardant clothing

Safety shoes

Ear protection helmet

Limitation and supervision of exposure into the environment: Dumping into the environment must be prevented.

* SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Information

Appearance:

Form:	Solid
Colour:	Interior: grey Exterior: dark red

Odour:	Odourless
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Odour threshold:	Not determined.
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pH-value:	Not applicable.
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Change in condition

Melting point/freezing point:	1500 °C (inorganic)
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Initial boiling point and boiling range:	Undetermined.
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Flash point:	No data available.
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Flammability (solid, gas):	No data available.
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Ignition temperature:	≥360 °C (organic)
Decomposition temperature:	No data available.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Vapour pressure:	Not applicable.
Density:	4.7-4.8 g/cm ³
Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Solubility in / Miscibility with water:	Partly miscible. (organic components)
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solvent content:	
Organic solvents:	5-15 %
VOC (EC)	0.00 %
9.2. Other information	No further relevant information available.

* **SECTION 10: Stability and reactivity**

10.1. Reactivity The product is stable under standard conditions (temperature, pressure) of storage and handling.

10.2. Chemical stability

The product is stable under standard conditions (temperature, pressure) of storage and handling.

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10.3. Possibility of hazardous reactions No dangerous reactions known.

10.4. Conditions to avoid

Water/ moisture

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

10.5. Incompatible materials

Oxidizing agents

Reducing agents

Strong acids and bases

Halogens

Halogenating agents

Hydrazine

10.6. Hazardous decomposition products

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Carbon monoxide (CO) and carbon dioxide (CO₂)

Nitrogen oxides (NO_x)

Metal oxid fume

* SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

LD/LC50 values:

CAS: 7440-02-0 nickel

Oral	LD50	9,000 mg/kg (rat)
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Primary irritant effect:

Skin corrosion/irritation:

Frequently or prolonged contact with skin may cause dermal irritation.

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

Serious eye damage/irritation: Slightly irritating, but not relevant for classification.

Respiratory tract: May cause respiratory irritation.

Respiratory or skin sensitisation:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

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CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity:

Suspected of causing cancer.

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

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

STOT-repeated exposure:

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard: Based on available data, the classification criteria are not met.

* **SECTION 12: Ecological information**

12.1. Toxicity

Aquatic toxicity:	
CAS: 7440-02-0 nickel	
EC50	>100 mg/l (Daphnia magna) (48h)
	0.174-0.311 mg/l (Pseudokirchneriella subcapitata) (96h)
LC50	>100 mg/l (Brachydanio rerio) (96h)

12.2. Persistence and degradability No further relevant information available.

12.3. Bioaccumulative potential No further relevant information available.

12.4. Mobility in soil No further relevant information available.

General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

12.5. Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6. Other adverse effects No further relevant information available.

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14.6. Special precautions for user Not applicable.

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

UN "Model Regulation": Void.

* SECTION 15: Regulatory information

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

EU-Regulations

Regulation (EC) No 1907/2006 (REACH)

Regulation (EC) No 1272/2008 (CLP)

Regulation 98/24/EC (employee health protection)

Directive 94/27/EC (Nickel Directive)

Directive 2012/18/EU

Named dangerous substances - ANNEX I: None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 27, 40

National regulations: National legislation has to be observed!

Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

Other regulations, limitations and prohibitive regulations: National legislation has to be observed!

15.2. Chemical safety assessment A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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Relevant phrases:

H228 Flammable solid.

H252 Self-heating in large quantities; may catch fire.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.

Training hints:

The product should only be handled by persons, who were informed sufficiently about the nature of the product and about the necessary safety precautions.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Sol. 1: Flammable solids – Category 1

Self-heat. 2: Self-heating substances and mixtures – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

* Data compared to the previous version altered.