



FLUXOCORD 41

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SDS Ref.: S-00230

Date of issue: 18/11/2004 Revision date: 05/07/2019 Supersedes: 12/03/2019 Version: 3.0

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

1.1. Product identifier

Product form : Mixture
Product name : FLUXOCORD 41
Product code : S-00230

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

1.2.1. Relevant identified uses

Main use category : Flux-cored wire for submerged arc welding
Industrial/Professional use spec : Reserved for industrial and professional use
Function or use category : Welding and soldering agents

1.2.2. Uses advised against

Restrictions on use : No particular exclusions are known

1.3. Details of the supplier of the safety data sheet

Lincoln Electric Europe B.V.
Nieuwe Dukenburgseweg 20
6534 AD Nijmegen - The Netherlands
T +31 243 522 911
sds@lincolnelectriceurope.com - www.lincolnelectric.eu

1.4. Emergency telephone number

Emergency number : INRS +33 (0)1.45.42.59.59

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Available 24 hours/day
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	Available 24 hours/day

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, Category 1 H317
Carcinogenicity, Category 2 H351
Specific target organ toxicity — Repeated exposure, Category 2 H373
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

However the form in which product is placed on the market does not present a danger, such preparations do not require a label. Note 7 : Alloys containing nickel are classified for skin sensitisation when the release rate of 0,5 µg Ni/cm²/week, as measured by the European Standard reference test method EN 1811, is exceeded.

No labelling applicable

2.3. Other hazards

Other hazards not contributing to the classification : Spatter and melting metal can cause burn injuries. UV, IR radiations. Arc ray can severely damage eyes or skin. Formation of dangerous fumes during use. Inhalation of welding fumes may cause respiratory irritation, cough. . Excessive or prolonged inhalation of fumes may cause metal fever. Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, NO_x. Electric shocks can kill. Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
nickel powder; [particle diameter < 1mm]	(CAS-No.) 7440-02-0 (EC-No.) 231-111-4 (EC Index-No.) 028-002-01-4 (REACH-no) 01-2119438727-29	1,5 - 5	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412
Manganese substance with a Community workplace exposure limit	(CAS-No.) 7439-96-5 (EC-No.) 231-105-1 (REACH-no) 01-2119449803-34	0,5 - 1,5	Not classified

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If breathing becomes difficult (due to inhalation of fume), take the patient to fresh air and get them to breathe deeply. Seek medical attention if symptoms persist.
First-aid measures after skin contact	: In case of burn with hot metal, flush with plenty of water. Take off immediately all contaminated clothing. Seek medical attention if burns develop.
First-aid measures after eye contact	: In case of burn with hot metal, flush with plenty of water. Seek medical attention immediately.
First-aid measures after ingestion	: Ingestion unlikely. Obtain emergency medical attention.

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

Symptoms/effects : See Heading 2.3.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry powder.
Unsuitable extinguishing media	: Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable.
Hazardous decomposition products in case of fire	: May release hazardous fumes.

5.3. Advice for firefighters

Precautionary measures fire	: Eliminate all ignition sources if safe to do so.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

6.2. Environmental precautions

Not specifically applicable.

6.3. Methods and material for containment and cleaning up

Other information : Contain and collect as any solid.

6.4. Reference to other sections

See Heading 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Provide local exhaust or general room ventilation to minimize fumes concentrations.
Precautions for safe handling	: Local exhaust and general ventilation must be adequate to meet exposure standards.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in dry protected location to prevent any moisture contact.
Storage area	: Store in a well-ventilated place.

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Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

nickel powder; [particle diameter < 1mm] (7440-02-0)

EU - Occupational Exposure Limits

Local name	Nickel metal
IOELV TWA (mg/m ³)	0,005 mg/m ³ (respirable fraction) 0,01 mg/m ³ (inhalable fraction)
Notes	(Year of adoption 2011)
Regulatory reference	SCOEL Recommendations

Czech Republic - Occupational Exposure Limits

Local name	Nikl
Expoziční limity (PEL) (mg/m ³)	0,5 mg/m ³
Expoziční limity (NPK-P) (mg/m ³)	1 mg/m ³
Remark (CZ)	S
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zpracovány změny č. 246/2018 Sb.)

France - Occupational Exposure Limits

Local name	Nickel (métal)
VME (mg/m ³)	1 mg/m ³
Note (FR)	Valeurs recommandées/admises; substance classée cancérigène de catégorie 2
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)

Germany - Occupational Exposure Limits (TRGS 900)

TRGS 900 Local name	Nickelmetall
TRGS 900 Occupational exposure limit value (mg/m ³)	0,006 mg/m ³ (A)
TRGS 900 Limitation of exposure peaks	8(II)
TRGS 900 Remark	AGS;24;Sh;Y
TRGS 900 Regulatory reference	TRGS900

Portugal - Occupational Exposure Limits

Local name	Níquel, expresso em Ni Elementar
OEL TWA (mg/m ³)	1,5 mg/m ³
Regulatory reference	Norma Portuguesa NP 1796:2014

United Kingdom - Occupational Exposure Limits

Local name	Nickel and its inorganic compounds (except nickel tetracarbonyl)
WEL TWA (mg/m ³)	0,5 mg/m ³ nickel and water insoluble nickel compounds (as Ni)
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity), Carc (Capable of causing cancer and/or heritable genetic damage. See paragraphs 49–51) (nickel oxides and sulphides) Sen (nickel sulphate)
Regulatory reference	EH40/2005 (Third edition, 2018). HSE

Manganese (7439-96-5)

EU - Occupational Exposure Limits

Local name	Manganese
IOELV TWA (mg/m ³)	0,2 mg/m ³ (inhalable fraction) 0,05 mg/m ³ (respirable fraction)
Notes	(Year of adoption 2011)
Regulatory reference	SCOEL Recommendations

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Manganese (7439-96-5)	
Germany - Occupational Exposure Limits (TRGS 900)	
TRGS 900 Local name	Mangan und seine anorganischen Verbindungen
TRGS 900 Occupational exposure limit value (mg/m ³)	0,02 mg/m ³ (A) 0,2 mg/m ³ (E)
TRGS 900 Limitation of exposure peaks	8(II)
TRGS 900 Remark	DFG, Y, 10
TRGS 900 Regulatory reference	TRGS900
Portugal - Occupational Exposure Limits	
Local name	Manganês e compostos inorgânicos, expressos em Mn
OEL TWA (mg/m ³)	0,2 mg/m ³
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Manganeso
VLA-ED (mg/m ³)	0,2 mg/m ³ elemental 0,2 mg/m ³ Compuestos inorgánicos de Manganeso, como Mn

8.2. Exposure controls

Materials for protective clothing:

Wear suitable protective clothing.

Hand protection:

Welding gloves.

Eye protection:

Use a protection mask equipped with suitable filter glasses.

Skin and body protection:

Skin protection appropriate to the conditions of use should be provided.

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Do not exceed the occupational exposure limits (OEL)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

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Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal conditions.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Not applicable.

10.4. Conditions to avoid

None under normal conditions.

10.5. Incompatible materials

Contact with chemical substances like acids or bases could cause generation of gas.

10.6. Hazardous decomposition products

Formation of dangerous fumes during use. Welding fumes are classified carcinogen by the IARC (International Agency for Research on Cancer) : Group 1. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. These hazardous products could include those from the reaction or oxidation of the components listed in section 3 or included in base material. Refer to applicable national exposure limits for fume compounds and national exposure limits for fumes. In case of work on parts covered by coatings such as: Lubrificants, Solvent, Paint, metallic compounds, Grease, etc... The thermal or photochemical decomposition products of these elements cumulate with the dust and fumes emitted by the melting of the welding product. The solution to adopt must be, in any case, preceded by a spot study. Refer to the document "Health and Safety in Welding" published by the International Institute of Welding.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

nickel powder; [particle diameter < 1mm] (7440-02-0)

IARC group	2B - Possibly carcinogenic to humans
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Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

nickel powder; [particle diameter < 1mm] (7440-02-0)

LC50 fish 1	> 100 mg/l Brachadanio rerio
LC50 fish 2	≈ 0,23 mg/l Pimephales promelas
EC50 Daphnia 1	> 100 mg/l Daphnia magna
EC50 96h algae (1)	≈ 0,012 mg/l Selenastrum capricornutum

12.2. Persistence and degradability

No additional information available

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12.3. Bioaccumulative potential

nickel powder; [particle diameter < 1mm] (7440-02-0)

Bioconcentration factor (BCF REACH) : \approx 270

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose in a safe manner in accordance with local/national regulations.
Additional information : 12 01 13 Welding wastes (Q8). 16 01 17 Ferrous metal (Q1). 16 01 18 Non-ferrous metal (Q1).
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

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Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on	Entry title or description
27.	nickel powder; [particle diameter < 1mm]	Nickel and its compounds

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : Manganese is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Manganese is listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

1.3. Details of the supplier of the safety data sheet. 1.4. Emergency telephone number. 8. Exposure controls/personal protection. 15. Regulatory information.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor

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CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Other information : The product must not be used for any application that is not allowed, in this case we will not be responsible for any damage caused. The user must respect current Safety, Health and Environmental legislation.

Full text of H- and EUH-statements:	
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT RE 2	H373	Calculation method

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.