



# MAR-60HRC-AM



## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product Identifier:

MAR-60HRC-AM

UFI: N/A: Compliance by 2024 for Industry

Contains the following substances with hazardous properties.

- Cobalt
- Nickel

### 1.2 Relevant Identified uses of the substance or mixture and uses advised against:

Identified uses:

0	Other Process or activity:
AC7	Metal articles
ERC2	Formulation of preparations (mixtures)
ERC3	Formulation in materials
PROC14	Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC22	Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
PROC25	Other hot work operations with metals
PROC26	Handling of solid inorganic substances at ambient temperature
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
SU17	General manufacturing

Uses advised against:

Use of nickel in articles intended for direct and prolonged contact with the skin where the release of nickel exceeds the limit set out in Directives 94/27/EC and 2004/6/EC and REACH regulation 1907/2009 (Annex XVII).

Use of nickel in nickel-containing food contact materials for which migration into foodstuff would exceed more than 0.1 mg/kg of nickel in accordance with the Council of Europe Guidelines on metals and alloys used as food contact materials

Use of nickel in immersion-type kettles which would release more than 0.05 mg/l of nickel into the water in accordance with the Council of Europe Guidelines on metals and alloys used as food contact materials

Use of nickel in commercially available "do-it-yourself" home electroplating kits.

### 1.3 Details of the supplier of the Safety Data Sheet

Sandvik Osprey Limited  
Red Jacket Works  
Milland Road  
Neath  
Neath / Port Talbot  
SA11 1NJ  
United Kingdom  
Telephone: +44 (0)1639 634121

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MSDS conforming to EC Directive 1907/2006 and 1272/2008

Sandvik Osprey Ltd believes that the information in this Material Safety Data Sheet is accurate. However, Sandvik Osprey Ltd makes no express or implied warranty as to the accuracy of such information and expressly disclaims any liability resulting from reliance on such information

Printed Date 18/12/2023



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Email: [powders.osprey@sandvik.com](mailto:powders.osprey@sandvik.com)

## 1.3.1 Only Representative for EU customers.

Sandvik Machining Solutions AB (Org. No.: 556692-0053)

811 81 Sandviken

Sweden

## 1.4 Emergency Telephone Number:

+44 (0)1639 634121 available 09:00 to 17:00 GMT Monday to Friday (English language only)

## Section 2: Hazards Identification

### 2.1 Classification of the substance or mixture:

#### 2.1.1 CLP



Harmful

#### CLP

##### Hazard statements

Acute Tox. 1 H330

Fatal if inhaled.

Aquatic Chronic 4 H413

May cause long lasting harmful effects to aquatic life.

Carc. 1B H350

May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

Eye Irrit. 2 H319

Causes serious eye irritation.

Muta. 2 H341

Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

Resp. Sens. 1 H334

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

STOT RE 1 H372

Causes damage to respiratory tract and lungs through prolonged or repeated exposure

Skin Sens. 1 H317

May cause an allergic skin reaction.

##### Precautionary statements

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P232

Protect from moisture.

P260

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

P264

Wash thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P272

Contaminated work clothing should not be allowed out of the workplace.

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P335 + P334	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P363	Wash contaminated clothing before reuse.
P370 + P378.2	In case of fire: Use extinguishing powder or sand for extinction.
P402 + P404	Store in a dry place. Store in a closed container.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local and national regulations

## 2.2 Label Elements



### Signal Word

#### Hazard statements:

Acute Tox. 1 H330

Aquatic Chronic 4 H413

Carc. 1B H350

Eye Irrit. 2 H319

Muta. 2 H341

Resp. Sens. 1 H334

STOT RE 1 H372

Skin Sens. 1 H317

#### Precautionary statements:

P201

P202

P232

P260

P273

P280

Fatal if inhaled.

May cause long lasting harmful effects to aquatic life.

May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

Causes serious eye irritation.

Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

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

Causes damage to respiratory tract and lungs through prolonged or repeated exposure

May cause an allergic skin reaction.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Protect from moisture.

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

Avoid release to the environment.

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



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## 2.3 Other Hazards

This substance/ mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), very persistent and very bioaccumulative (uPvB), or any substances of of very high concern (SVHC)

## Section 3: Composition/Information on Ingredients

### 3.1 Substances

N/A

### 3.2 Mixtures

Conc. %	CAS No	EC No	REACH Registration No	Classification according to (EC) No 1272/2008
<b>Iron</b>				
60.00-70.00	7439-89-6	231-096-4	01-2119462838-24-0549	P202 P260 P270 P272 P280 P501
<b>Cobalt</b>				
10.00-25.00	7440-48-4	231-158-0	01-2119517392-44-0108	Acute Tox. 1 H330 Aquatic Chronic 4 H413 Carc. 1B H350 Eye Irrit. 2 H319 Muta. 2 H341 Repr. 1B H360 Resp. Sens. 1 H334 Skin Sens. 1 H317 P202 P260 P270 P272 P280 P501
<b>Nickel</b>				
10.00-25.00	7440-02-0	231-111-4	01-2119438727-29-0208	Carc. 2 H351.1 STOT RE 1 H372 Skin Sens. 1 H317 P201 P202 P260 P261 P264 P270 P272 P273 P280



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				P302 + P352 P308 + P313 P314 P333 + P313 P363 P405 P501
<b>Molybdenum</b>				
1.00-10.00	7439-98-7	231-107-2	01-2119472304-43-0119	P202 P260 P270 P272 P280 P501
<b>Aluminium</b>				
0.00- 0.10	7429-90-5	231-072-3	01-2119529243-45-0407	P202 P232 P260 P270 P272 P280 P335 + P334 P370 + P378.2 P402 + P404 P501

## Section 4: First-Aid Measures

### 4.1 Description of first aid measures

- Skin Contact:** Wash off thoroughly with soap and water. If rash develops seek medical attention.
- Eye Contact:** Irrigate thoroughly with water for at least 10 minutes – obtain medical attention if irritation persists
- Inhalation:** Remove from exposure, rest and keep warm. In severe cases or if exposure has been great, obtain medical attention.
- Ingestion:** Wash out mouth thoroughly with water. Obtain medical attention if further symptoms develop.

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

- Skin Contact:** Rash may develop.
- Eye Contact:** Mechanical irritation.
- Inhalation:** Possible asthma like symptoms.



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Ingestion: No information

## 4.3 Indications of any immediate medical attention and special treatment needed

Skin Contact: Treat symptomatically

Eye Contact: Treat symptomatically

Inhalation: Treat symptomatically

## Section 5: Fire Fighting Measures

### 5.1 Extinguishing Media

Use gentle surface application of Class D extinguishing agent or dry inert granular material (e.g. sand) to cover and ring the burning material. Avoid mixing of the extinguishing agent with the burning material. If possible, isolate the burning material to prevent fire spread, and allow the material to burn itself out. Do not disturb the material until completely cool. Move undamaged containers away from heat or flame, if possible.

Do not use water, halogenated agents, or ABC dry chemical agents. These fire extinguishing agents will react with the burning material.

### 5.2 Special Hazards arising from the substance or mixture

Avoid formation of dust cloud as this may lead to an increased risk of a dust explosion.

### 5.3 Advice for fire fighters

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

## Section 6: Accident Release Measures

### 6.1 Personal precautions

6.1.1 For non-emergency personnel: Wear suitable protective clothing and equipment.

6.1.2 For emergency responders: Wear suitable protective clothing and equipment.

**6.2 Environmental precautions:** Take precautions to ensure product does not contaminate ground or enter the drainage system.

### 6.3 Methods and material for containment and clear up

6.3.1 For containment: Not applicable

6.3.2 For cleaning up:

Small spillage: Vacuum with equipment fitted with HEPA filtration.



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Large spillage: Solids should be carefully transferred to salvage containers. Any residues should be treated as small spillages.

6.3.3 Other information: No Information.

6.4 Reference to other sections No Information

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling

Protective measures: Avoid contact with skin and eyes. Do not breathe dust. Wash hand and face thoroughly after working with material.

Measures to prevent fire: Not applicable.

Measures to protect the environment: Use appropriate containment to avoid environmental hazard.

Advice on general occupational hygiene: Work using a suitable extraction/ventilation system. Contaminated clothing should be removed and washed before re-use.

### 7.2 Conditions for safe storage

Technical measures and storage conditions: Store in sealed container in dry conditions and keep the container closed when not in use

Packaging materials: Keep in the container supplied, or suitable metal, plastic or polythene container.

Requirements for storage rooms and vessels: Containers should be stored under cover in a clean and dry environment.

Storage class: Not applicable.

Further information on storage conditions: Local regulations should be followed regarding the storage of this material.

### 7.3 Specific end uses

Identified uses:

0	Other Process or activity:
AC7	Metal articles
ERC2	Formulation of preparations (mixtures)
ERC3	Formulation in materials
PROC14	Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC22	Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting
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PROC26	Handling of solid inorganic substances at ambient temperature
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
SU17	General manufacturing

## Section 8: Exposure Controls and Personal Protection

## 8.1 Control Parameters

CAS No.	Name	Legal Basis	WEL 8hr limit		WEL 15min limit	
			ppm TWA (8 hour)	mg/m3 TWA (8 hour)	ppm TWA (short term)	mg/m3 TWA (short term)
7439-89-6	Iron	HSE EH40/2005 Workplace exposure limits	-	Inhalable 10, Respirable 4	-	-
7440-48-4	Cobalt	HSE EH40/2005 Workplace exposure limits	-	0.1	-	-
7440-02-0	Nickel	HSE EH40/2005 Workplace exposure limits	-	0.5	-	-

## 8.2 Exposure Controls



### 8.2.1 Appropriate engineering controls:

Substance/mixture related measures to prevent exposure during identified uses: Not applicable

Structural measures to prevent exposure: Enclosed processes

Organisational measures to prevent exposure: Substance/Mixture only to be used by those trained in its safe use.

Technical measures to prevent exposure: Enclosed processes or local exhaust ventilation

### 8.2.2 Personal protection equipment:

8.2.2.1 Eye and face protection: Safety glasses

8.2.2.2 Skin protection:

Hand protection: Impervious gloves

Other skin protection: Barrier cream

8.2.2.3 Respiratory protection: FFP3 dust mask to EN149:2001

8.2.2.4 Thermal hazards: Not applicable

### 8.2.3 Environmental exposure controls:





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Substance/mixture related measures to prevent exposure: Not applicable  
Instruction measures to prevent exposure: Not applicable  
Organisational measures to prevent exposure: Substance/Mixture only to be used by those trained in its safe use.  
Technical measures to prevent exposure: Not applicable

## Section 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical State</b>	Solid (powder)
<b>Colour</b>	Grey
<b>Odour</b>	No data
<b>Melting point/freezing point</b>	No data
<b>Boiling point or initial boiling point and boiling range</b>	No data
<b>Flammability (solid,gas)</b>	No data
<b>Density and/or relative density</b>	8.29
<b>Particle Characteristics</b>	See order details for PSD

### 9.2 Other Information

9.2.1 Information with regard to physical hazard classes  
No data available

9.2.2 Other safety characteristics properties, safety characteristics and test results  
No data available

## Section 10: Stability and Reactivity

<b>10.1 Reactivity:</b>	No data
<b>10.2 Chemical stability:</b>	Stable under normal conditions.
<b>10.3 Possibility of hazardous reactions:</b>	No Data
<b>10.4 Conditions to avoid:</b>	Oxidising agents.
<b>10.5 Incompatible materials:</b>	No data
<b>10.6 Hazardous decomposition products:</b>	No data

## Section 11: Toxicological Information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008



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(a) acute toxicity	No data available on mixture
(b) skin corrosion/irritation	No data available on mixture
(c) serious eye damage/irritation	No data available on mixture
(d) respiratory or skin sensitisation	No data available on mixture
(e) germ cell mutagenicity	No data available on mixture
(f) carcinogenicity	No data available on mixture
(g) reproductive toxicity	No data available on mixture

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

This substance/ mixture contains no components with known/ suspected endocrine disrupting properties

### 11.2.2 Other information

N/A

## Section 12: Ecological Information

### 12.1 Toxicity

Long-term Ecotoxicity No data

### 12.2 Persistence and degradability

Abiotic Degradation No data

Physical- and photo-chemical elimination No data

Biodegradation No data

### 12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow) No data

Bioconcentration factor (BCF) No data

### 12.4 Mobility in soil

Known or predicted distribution to environmental compartments No data

Surface tension No data

Adsorption/Desorption No data

### 12.5 Results of PBT & vPvB assessment

No data



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**12.6 Other adverse effects** No data

**12.7 Additional information** No data

## Section 13: Disposal Considerations

### 13.1 Waste treatment methods

#### 13.1.1 Product/Packaging disposal:

EWC for waste product, ferrous alloys 12-01-02, non-ferrous alloys 12-01-04

EWC for non product contaminated packaging, steel drums 15-01-04, card 15-01-01, plastic 15-01-02, wood 15-01-03

EWC for product contaminated packaging, all types 15-01-10

#### 13.1.2 Waste treatment – relevant information:

Chemical residues are generally classified as special waste and as such, are covered by Directive 2008/98/EC of the European Parliament. Contact your local waste disposal authority for advice or pass to a chemical recovery company.

#### 13.1.3 Sewage disposal - relevant information:

#### 13.1.4 Other disposal recommendations:

## Section 14: Transport Information

### 14.1 UN number or ID number

UN No. 3077

### 14.2 UN proper shipping name

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

### 14.3 Transport hazard class(es)

ADR/RID

ADR/RID Class 9

ADR Classification Code M7

Special Provisions 274 335 375 601

Limited Quantities 5 kg

Expected Quantities E1

Emergency Action Code 2Z

Mixed Packing Instructions for Packages P002 IBC08 LP02 R001

Special Packing Provisions for Packages PP12 B3

Mixed Packing Instructions for Packages MP10



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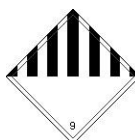
Packing Instructions for Portable Tanks	T1 BK1 BK2 BK3
Special Provisions for Portable Tanks	TP33
Tank Code for Tanks	SGAV LGBV
Special Provisions for Tanks	
Vehicle for Tank Carriage	AT
ADR Transport Category	3
Tunnel Restriction Code	-
Special Provisions for Carriage - Packages	V13
Special Provisions for Carriage - Bulk	VC1 VC2
Special Provisions for Carriage - Loading, Unloading and Handling	CV13
Special Provisions for Carriage - Operation	
ADR HIN	90
IMDG	
IMDG Class	9
Special Provisions	274 335 375 601
Limited Quantities	5 kg
Expected Quantities	E1
Mixed Packing Instructions for Packages	P002 IBC08 LP02 R001
Special Packing Provisions for Packages	PP12 B3
Packing Instructions for Portable Tanks	T1 BK1 BK2 BK3
Special Provisions for Portable Tanks	TP33
IMDG EMS	F-A, S-F
Stowage and Handling	Category A SW23
Segregation	
Marine Pollutant	
ICAO/IATA	
IATA Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Expected Quantities	E1
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Y956
Passenger and Cargo Aircraft Limited Quantities Max net Qty	30Kg G
Passenger and Cargo Aircraft Limited Packing Instructions	956
Passenger and Cargo Aircraft Max net Qty	400Kg
Passenger and Cargo Aircraft Packing Instructions	956



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Cargo Aircraft Max net Qty	400Kg
Special Provisions	A97, A158, A179, A197
Emergency Response Guidebook (ERG) Code	9L
Labels	
Labels	9



## 14.4 Packing group

Packing group	III
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## 14.5 Environmental hazards

Environmental hazards	Marine Pollutant
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## 14.6 Special precautions for user

Special precautions for user	Not known
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## 14.7 Maritime transport in bulk according to IMO instruments

No information available

## Section 15: Regulatory Information

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

UK The use of this product must be assessed in accordance with the requirements of the COSHH Regulations 2002 as amended.

EU EC directive 98/24/EC on the Protection of the health and safety of workers from the risks related to chemical agents at work

### Authorisation and/or restrictions on use

**Authorisations:** Not applicable

**Restrictions:** see section 1.2 on uses advised against.

**Chemical safety assessment:** No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## Section 16: Other Information

### 16.1 Revision Information

Sandvik Osprey Ltd.  
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Milland Road  
Neath  
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MSDS conforming to EC Directive 1907/2006 and 1272/2008

Sandvik Osprey Ltd believes that the information in this Material Safety Data Sheet is accurate. However, Sandvik Osprey Ltd makes no express or implied warranty as to the accuracy of such information and expressly disclaims any liability resulting from reliance on such information  
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Revision:	Reason for revision:	
1	05/08/2013	Section 14.8. Reference to UN3077 removed
2	02/10/2014	None
3	08/06/2015	Removed CHIP information
4	01/06/2020	Initial setup
5	10/07/2020	Added H350/H341/H413 CLP statements
6	12/10/2020	Added H302
7	11/05/2021	Updated REACH Registration No
8	11/05/2021	Updated REACH Registration No
9	12/05/2021	Updated REACH Registration No
10	18/05/2021	Updated REACH Registration Number
11	16/06/2021	Updated REACH Registration No
12	09/06/2023	Information in Section 11 regarding nickel has been removed, as there is no data available for the mixture.
13	14/06/2023	The following Sections have been updated to reflect the requirements of Regulations (EC) No 1907/2006 of the European Parliament and of the Council, Consolidated Version 17.12.2022: Sections 2, 3, 9 and 11 have been amended

## 16.2 List of abbreviations.

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CEN	European Committee for Standardisation
CLP	Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
CAS#	Chemical Abstracts Service number
COSHH	Control of Substances Hazardous to Health
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
DNEL	Derived No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
DU	Downstream User
ECHA	European Chemicals Agency
ES	Exposure Scenario
ext-SDS	Extended Safety Data Sheet (SDS with ES attached)
EWG	European Waste Catalogue (replaced by LoW – see below)
GES	Generic Exposure Scenario
GHS	Globally Harmonized System
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MSDS	Material Safety Data Sheet
OEL	Occupational Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic substance
PEC	Predicted Effect Concentration
PNEC(s)	Predicted No Effect Concentration(s)
PPE	Personal Protection Equipment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
STOT	Specific Target Organ Toxicity
RE	Repeated Exposure
SE	Single Exposure
SVHC	Substances of Very High Concern



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TWA Time Weighted Average (long term 8 hours) (short term 15 minutes unless specified otherwise)  
UN United Nations  
vPvB Very Persistent and Very Bioaccumulative

## 16.3 Key literature references and sources for data

Testing in accordance with the method described in 49 CFR 173 Appendix E and UN Recommendations on the Transport of Dangerous Goods for flammability was used to establish the non-flammability of this product.

## 16.4 Classification and procedure used to derive the classification for mixtures according to Regulation 1272/2008/EC & 1907/2006/EC.

## 16.6 Training advice:

## 16.7 Further information:

Testing in accordance with the method described in 49 CFR 173 Appendix E and UN Recommendations on the Transport of Dangerous Goods for flammability was used to establish the non-flammability of this product.