



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

1.1 Product identifier

Trade name: Uddeholm AM Corrax

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

Use of the substance/mixture: Manufacture of fabricated metal products, except machinery and equipment.

1.3 Details of the supplier of the safety data sheet

Uddeholms AB

Address: Uvedsvägen 15
SE-683 85 HAGFORS
SWEDEN

Telephone: +46 563 170 00

Contact: Hse@uddeholm.com

1.4 Emergency telephone number

Emergency telephone number: 112 (00-24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

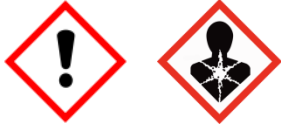
Specific target organ toxicity - repeated exposure, category 2; H373: May cause damage to organs through prolonged or repeated exposure

Carcinogenicity, category 2; H351: Suspected of causing cancer

Skin sensitization, category 1; H317: May cause an allergic skin reaction

2.2 Label elements

Hazard pictograms



GHS07

GHS08

Signal word: Warning

Hazard statements:

H373: May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure

H351: Suspected of causing cancer

H317: May cause an allergic skin reaction

Precautionary statements:

P261: Avoid breathing dust

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

P314: Get medical advice/attention if you feel unwell.

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

P501: Dispose of contents/container in accordance with local/regional/national/international regulation

2.3 Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Substance	EINICS-number CAS-number Index-number	Symbol (CLP)	Classification and Hazard statements (CLP)	Symbol (EG- Class.)	Risk phrases (EG- Class.)	Concentration (weight %)
Nickel (powder)	231-111-4 7440-02-0 028-002-01-4	GHS08 GHS07 Danger	Skin Sens. 1, H317; Carc. 2, H351; STOT RE 1, H372; Aquatic Chronic 3, H412;			9-9,5
Chromium	231-157-5 7440-47-3	Not classified.	Not classified.			11,8-12,2
Aluminium (powder)	231-072-3 7429-90-5 013-002-00-1	GHS02 Danger	Flam. Sol. 1, H228; Water-react. 2, H261;			1,6-1,8
Molybdenum	231-107-2 7439-98-7	Not classified.	Not classified.			1,3-1,5
Manganese	231-105-1 7439-96-5	Not classified.	Not classified.			0,2-0,4

For full text of

H- and EUH-phrases see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

First aider needs to protect himself. Move affected person from the danger area and lay down.

After inhalation:

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Call a physician immediately.

After contact with skin:

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Get medical attention.

After contact with eyes:

Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion:

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

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: Extinguishing powder (D (Fires of metals).)

Unsuitable extinguishing media: Strong water jet.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Fumes containing metallic oxides.

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. Wear full chemical protective clothing. Avoid generation of dust.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protection equipment.

6.2 Environmental precautions

Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.

6.3 Methods and material for containment and cleaning up

If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in appropriate container for disposal, Avoid creating dusty conditions and prevent wind dispersal.

6.4 Reference to other sections

See Section 13 for disposal information. See Section 7 for information on safe handling. For personal protection, see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid breathing dusts. Avoid prolonged contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container in ventilated area.

7.2 Conditions for safe storage, including any incompatibilities

Keep container closed. Keep container in ventilated area.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Substance	CAS-number	Long-term exposure limit (ppm)	Long-term exposure limit (mg/m ³)	Short-term exposure limit (ppm)	Short-term exposure limit (mg/m ³)	Comments	Source
Nickel and its inorganic compounds (except nickel tetracarbonyl): water-soluble nickel compounds (as Ni) nickel and water-insoluble nickel compounds (as Ni)		- -	0,1 0,5	- -	- -	Sk, Carc (nickel oxides and sulphides)) Sen (nickel sulphate)	EH40/2005 Workplace exposure limits
Chromium	7440-47-3	-	0,5	-	-		EH40/2005 Workplace exposure limits
Aluminium metal -inhalable dust -respirable dust	7429-90-5	- -	10 4	- -	- -		EH40/2005 Workplace exposure limits
Molybdenum compounds (as Mo) -soluble compounds -insoluble compounds		- -	5 10	- -	10 20		EH40/2005 Workplace exposure limits
Manganese and its inorganic compounds (as Mn)		-	0,5	-	-		EH40/2005 Workplace exposure limits

8.2 Exposure controls

Engineering measures: Use only with adequate ventilation.

Hygiene measures: Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protection:

Eyes: Safety eyewear complying with an approved standard should be used and selected based on the task being performed and the risks involved (avoid exposure to liquid splashes, mists, gases or dusts). Safety glasses are recommended.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Hands: Leather gloves are recommended.

Respiratory: Use a properly fitted; particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental Exposure Controls: Emissions from ventilation or work in the process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid (powder)
Colour	Grey
Odour	Odourless
pH-value	Not valid
Flash point	Not valid
Solubility in water	Insoluble

9.2 Other information

No further information.

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Materials to avoid: Acid, concentrated; Material, oxygen-rich, oxidizing; Oxidizing agents.; Alkalis (alkalis), concentrated.

10.6 Hazardous decomposition products

In case of fire may be liberated: Fumes containing metallic oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

Manganese:

LD50 oral > 2000 mg/kg (rat)

LC50 inhalation/4h > 5,14 mg/L air (analytical) (rat)

Chromium:

LD50 oral > 5000 mg/kg (rat)

LC50 inhalation/4h > 5,41 mg/L air (analytical) (rat)

Aluminium:

LD50 oral > 15900 mg/kg (rat)

LC50 inhalation/4h > 0,888 mg/L air (analytical) (rat)

Nickel:

LD50 oral > 9000 mg/kg (rat)
NOAEC inhalation / 66 min. \geq 10,2 mg/L air

Molybdenum:

LD50 oral > 5000 mg/kg (rat)
LC50 inhalation/4h > 5,05 mg/L air (analytical) (rat)
LD50 dermal > 2000 mg/kg (rat)

Irritation/corrosion:

Manganese: Not irritating.

Chromium: Not irritating.

Aluminium: Not irritating.

Nickel: Not irritating.

Molybdenum: Not irritating.

Skin/Respiratory sensitisation:

Manganese: Not sensitising.

Chromium: Not sensitising.

Aluminium: Not sensitising.

Nickel: No information available.

Molybdenum: Not sensitising.

Repeated dose toxicity:

Manganese: No information available.

Chromium:

LOAEC (Inhalation) \geq 4,4 mg/m³ air (rat); Mild inflammatory reactions observed already at the lowest concentration (4,4 mg/m³, corresponding to 3 mg Cr(III)/m³).

Aluminium:

LOAEL (oral) = 1 000 mg/kg/day (actual dose received) (rat); Parental: rat, irritation of stomach mucosa.

NOAEL (oral) = 1 000 mg/kg/day (actual dose received) (rat); Parental: Overall Reproductive toxicity: rat, lack of effects on reproductive, breeding and mating activity.

LOAEC (Inhalation) = 50 mg/m³ air (rat); foci of fibrosis/granuloma found for pyro Al powder at 50 mg/m³ exposed for 108 days, killed 6 months later.

Nickel:

NOAEL (oral) = 2,2 mg Ni/kg/day as Ni sulphate hexahydrate (rat); significant decrease in body weight
LOAEL (oral) = 6,7 mg Ni/kg/day as Ni sulphate hexahydrate (rat); significant decrease in body weight
LOAEL (Inhalation) = 0,1 mg/m³ air (nominal) (rat); The LOAEL for respiratory effects associated with inhalation exposure to nickel metal powder (MMAD=1,8 µm, GSD=2,4) was 0,1 mg/m³.

Molybdenum:

NOAEL (oral) = 17 mg/kg/day (nominal) (rat); NOAEL is based on the effects on body weights and kidneys seen at 60 mg Mo/kg/day.

NOAEL (oral) > 60 mg/kg/day (nominal) (rat); NOAEL based on no effects on testicular (or gonadal) and sperm and oestrous cycle effects at the highest dose tested (60 mg/kg/day).

NOAEC (Inhalation) > 100 mg/m³ air (nominal) (rat).

Genetic toxicity:

Manganese: Negative.

Chromium: Negative.

Aluminium: Negative.

Nickel: No information available.

Molybdenum:

Genotoxicity in vitro: Negative.

Genotoxicity in vivo: Positive. Chromosome aberration.

Carcinogenicity:

Manganese: Manganese is a specific inhibitor of carcinogenicity of nickel. Results indicate that manganese itself is not carcinogenic.

Chromium: No effects observed.

Aluminium: No effects observed.

Nickel: Suspected of causing cancer.

Molybdenum: No evidence of carcinogenic activity.

Toxicity to reproduction:

Manganese: No information available.

Chromium: No effects observed

Aluminium: No effects observed.

Nickel: No information available.

Molybdenum: No information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Manganese:

LC50 fish/96h > 3,6 mg/L (Oncorhynchus mykiss)
NOEC fish/96h = 3,6 mg/L (Oncorhynchus mykiss)
EC50 daphnia/48h > 1,6 mg/L (Daphnia magna)
NOEC daphnia/48h = 1,6 mg/L (Daphnia magna)
NOEC daphnia/8d = 1,7 mg/L (Ceriodaphnia dubia)
EC50 algae/72h = 2,8 mg/L (Desmodesmus subspicatus)
NOEC algae/72h = 2,5 mg/L (Desmodesmus subspicatus)

Chromium: No information available.

Aluminium:

LC50 fish/96h = 1,16 mg/L (Pimephales promelas)
NOEC fish/7d = 0,4 mg/L (Pimephales promelas)
LC50 daphnia/48h = 0,72 mg/L (Ceriodaphnia dubia)
NOEC daphnia/6d = 0,46 mg/L (Ceriodaphnia dubia)
NOEC algae/72h >= 0,044 mg/L (Pseudokirchneriella subcapitata)
NOEC 96h > 45,7 mg/L (Lemna minor)

Nickel:

LC50 fish/96h = 15,3 mg/L (Oncorhynchus mykiss)
NOEC fish/32d = 0,057 mg/L (Pimephales promelas)
LC50 daphnia/48h = 74,4 µg/L (Ceriodaphnia dubia)
NOEC algae/72h = 24,6 µg/L (Ankistrodesmus falcatus)
LC50 4d = 2,91 mg/L (Bufo terrestris)
NOEC 4d = 0,9 mg/L (Bufo terrestris)

Molybdenum:

LC50 fish/96h = 644,2 mg/L (Pimephales promelas)
NOEC fish/32d = 462,8 mg/L (Pimephales promelas)
LC50 daphnia/48h = 1005,5 mg/L (Ceriodaphnia dubia)
NOEC daphnia/21d = 156,5 mg/L (Ceriodaphnia dubia)
EC50 algae/72h = 356,9 mg/L (Phaeodactylum tricornutum)
NOEC algae/72h = 150 mg/L (Phaeodactylum tricornutum)

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The generation of waste should be avoided or minimized whenever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14: Transport information

14.1 UN number

No information available.

14.2 UN proper shipping name

No information available.

14.3 Transport hazard class(es)

No information available.

14.4 Packing group

No information available.

14.5 Environmental hazards

No.

14.6 Special precautions for user

No information 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

EU legislation:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council, REACH.

European Parliament and Council Regulation (EC) No 1272/2008, CLP.

National legislation:

Health and Safety Executive: EH40/2005 Workplace exposure limits (Second edition edition, published 2011).

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 List of relevant statements

Sensitisation — Skin, hazard category 1, H317: May cause an allergic skin reaction

Carcinogenicity, Hazard Category 2, H351: Suspected of causing cancer

Specific target organ toxicity — Repeated exposure, Hazard Category 2, H373: May cause damage to organs through prolonged or repeated exposure

Specific target organ toxicity — Repeated exposure, Hazard Category 1, H372: Causes damage to organs through prolonged or repeated exposure

Flammable solids, Hazard Category 1, 2, H228: Flammable Solid

Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 2, H261: In contact with water releases flammable gases

Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412: Harmful to aquatic life with long lasting effects

16.2 Responsible for SDS

Uddeholms AB

Uvedsvägen 15
68385 HAGFORS
SWEDEN

Telephone: +46 563 170 00
Contact: Hse@uddeholm.com

16.3 Prepared by

Intersolia Sweden AB

Besöksadress: Slottsmöllan, Företagscentrum 10,
302 31 Halmstad (ingång E, våningen 3)

Abbreviations and acronyms:

ADR: Accord europeen 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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

DISCLAIMER:

All information in this safety data sheet is based on our current knowledge. The information in this SDS was obtained from sources which we believe are reliable. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.