

SAFETY DATA SHEET

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GHS label elements	·			1		· .	·			·	
	-	-	-								
Hazard pictograms						1					
GHS07 GHS08											
Signal word				· · ·							
Danger	1			1. 			1			1	
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H372 Causes damage	to the lu	ing, the ki	dneys a	and the	liver throu	igh prol	longed	or repeate	ed	1 1	
exposure.					.:				1		.:
Route of exposure: Inha	alative.										
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Results	s of PBT a	ind vPv	/B asse	essment	1				1		·	
PBT: N/A	.4	1	1		1	:		1	-		1 1 1	
vPvB: N/Å	н н н		۰۰,	н 1 - 1		•••,	н 1 - 1		··.,	н 1 - 1	 11. 11.	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterizatic										
Dangerous components:										
7440-02-0 Nickel Carc. 2	2, H35′	1; STOT R	RE 1, H	372; Sk	in Sens. 1	, H317	1.1	1	1	. '
Additional information		.:	1			1		1	1	
None known.										
Non-Hazardous Ingredie	ents		: • •	· · .				: • •	· · .	
7440-47-3 Chromium										
7439-89-6 Iron						:		1		. '

SECTION 4. FIRST AID MEASURES

Description of first aid measures	1			1		5	
General information							
No special measures required.			1				
If inhaled:							
Supply fresh air and to be sure call for a doctor.		н н н		11. 1	н 1 - 1	 11.	
Seek medical treatment in case of complaints.	1			1		1	,
In case of skin contact: Generally the product does not irritate the skin.		.1	1,	:	1	:	

In case of eye contact:Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

If swallowed:

			1 1						1
If symptoms persist consult doctor.	· .	·		· .	·		· .	·	
Information for doctor	,					ı	i i		
Most important symptoms and effec	ts, both ac	ute and o	delayed	÷.,			1		
No data available									
Indication of any immediate medical					eded		111	11	
No data available		5			1			1	. '
				1.			÷.	:	.:
SECTION 5. FIREFIGH		1FAS							
					· · .		: * *	· · ·	
Extinguishing media	· .	·		•.			· .	·	
Suitable extinguishing agents									
Special powder for metal fires. Do n	ot use wat	er.		1	1				.1
For safety reasons unsuitable exting	uishing ag	gents							
Water		· · .		111	· · .	н 1. т.	111	11. 1	
Special hazards arising from the sul	ostance or	mixture			·			·	
If this product is involved in a fire, th	e following	g can be	released				1		
Toxic metal oxide fume	1		.1	÷.,	1		1		
Advice for firefighters									
Protective equipment:		11. 1	н 1 — 1				111		
No special measures required.	1	5			1			1	
	:		:			:	:	:	:
SECTION 6. ACCIDEN									
Personal precautions, protective eq	uipment ar	nd emerg	ency pro	cedure	S				
Not required.	1	1		1	1			1	
Environmental precautions:	1		.:	:			1		
Do not allow material to be released									
Methods and materials for containm	ent and cle	eanup:			1.1				
Dispose of contaminated material as	s waste ac	cording t	o sectior						
Prevention of secondary hazards:	1	1		1	1		1	1	

	· · ·		1	· · .			11.	
No special measures required.	1			1			5	
Reference to other sections								
See Section 7 for information on safe handlin	g							
See Section 8 for information on personal pro								
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. SEECTION 7. HANDLING AND STORAGE 4andling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No special measures required. Conditions for safe storage, including any incompatibilities Requirements to be met by storerooms and receptacles: No special requirements.Information about storage in one common storage facility: Do not store together with acids. Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers.		· · · .						
			;					. '
SECTION 7. HANDLING AND) STO	RAGE	÷.,		1	1		.:
Handling		1.			1.			
Precautions for safe handling								
Keep container tightly sealed.	1	. * *	1	1		1	1.1	. '
Store in cool, dry place in tightly closed conta	iners.				.1			.:
Ensure good ventilation at the workplace.								
No special measures required. Reference to other sections See Section 7 for information on personal protection equipment. See Section 13 for disposal information. SEECTION 7. HANDLING AND STORAGE Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No special measures required. Conditions for safe storage, including any incompatibilities Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Do not store together with acids. Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers. Specific end use(s)								
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Requirements to be met by storerooms and r	eceptacl	es:	1.					. 1
No special requirements.Information about st	orage in	one com	mon sto	rage fa	cility:			
Do not store together with acids.	· · .	н 1 - 1	111	· · .		; * *	· · .	
Store away from oxidizing agents.	·		· · ·	·			·	
Further information about storage conditions:								
Keep container tightly sealed.			1.					. :
-								
Specific end use(s)	11 s			11	н 1 - 1		· · .	
No data available	1 1		5	1		1	1	
	1		1	:	:	;	:	:

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

	1 1		· · ·	1		11.			· · ·	
No further data; see section 7.			·			·		· .	·	
Control parameters										
Components with limit values t	hat require	e monito	oring at	the workp	place:			÷.,		
7440-02-0 Nickel (77.0%)										
PEL (USA)		1			1				· · · .	
Long-term value: 1 mg/m		1	1 	1 - 1 1		1		1	1	
3 REL (USA)	2		1	j.	:.	1	j)	÷.		
Long-term value: 0.015 mg/m 3						· · .	:	;	· · .	
as Ni; See Pocket Guide App.	A		1.1			1			1	
TLV (USA)		1			1		j.	1		
Long-term value: 1.5* mg/m										
3 :		1 1 1 1	· · ·	1 1 1	· · · ·	· · .		: • •	· .	
elemental, *inhalable fraction			·			·			·	
EL (Canada)		1		,	1			,		
Long-term value: 0.05 mg/m		1			1			1		
3										
as Ni; ACIGH A1, IARC 1			· · ·	н 1 - 1	111		н 1 - 1	: • •	· · .	
EV (Canada) Long-term value:	1* 0.2** 0	.1*** m	g/m			1. 			1	
3										
inh.;*metal;**insol. compds.;***	soluble co	mpds.	1		· .	1		1		
7440-47-3 Chromium (15.5%)										
PEL (USA)		,			,					
Long-term value: 1* 0.5** mg/n	n _,		1			'		1	1	
3 *metal;**inorganic compds., as		:	1	.1	÷.,	:	.÷		:	
REL (USA)										
Long-term value: 0.5* mg/m	1 1		1	1 1		,				
3 [°] · · · · · · · · · · · · · · · · · · ·			·			1	11	1	1	
			I							

			· · ·						· · · .	
*metal+inorg.compds.as	Cr;See Pock	ket Guide	App. C			1			·	
TLV (USA)										
Long-term value: 0.5 mg	metal+inorg.compds.as Cr;See Pocket Guide App. C LV (USA) ong-term value: 0.5 mg/m L (Canada) hort-term value: C 0.1*** ppm ong-term value: 0.5* 0.01** 0.025*** mg/m ARC1,ACGIH A1*metal, inorg.**insol.** water-sol. V (Canada) Long-term value: 0.05 mg/m 439-89-6 Iron (7.5%) V (Canada) Long-term value: 1* 5** mg/m s iron*salts, wate soluble;**welding fume LV (Canada) Long-term value: 5 mg/m Additional information: Io data xposure controls tersonal protective equipment ollow typical protective and hygienic practices for handling chemicals. faintain an ergonomically appropriate working environment. ireathing equipment: Iot required. trotection of hands:									
3										
EL (Canada)			· · .						11	
Short-term value: C 0.1*	** ppm	1			1	1		1	1	
Long-term value: 0.5* 0.	01** 0.025***	mg/m			:					.:
3		,	,	,	,	,	ł	,		,
IARC1,ACGIH A1;*meta	l, inorg.**insc	ol.;**water-	-sol.							
		ng/m								
3		`: 	·	. * *	1	1	. * *	1	1	
7439-89-6 Iron (7.5%)		1			1			1		
EV (Canada) Long-term	value: 1* 5**	mg/m								
3 , , , , , , , , , , , , , , , , , , ,		1.1.1	· · .		111			111	· · .	
as iron;*salts, wate										
r-soluble;**welding fume	•				:			:		
TĽV (Canada) Long-tern	n value: 5 mg	ı/m		.÷			1	1		
3Additional information:										
No data			· · .	н 1 — 1				111	· · .	
Exposure controls			·			1			·	
Follow typical protective	and hygienic	practices	for har	ndling ch	emicals.					
_		-								
Breathing equipment:			· · ·			11			11.	
Not required.		1	1		`:	1		1	1	
Protection of hands:	1	;	:	;	;	:		;		
Not required.	· · · ·		i.				1			
Penetration time of glove	e material (in	minutes)			111					
No data available										
Eye protection:		1			1	1	. 11		1	
			1							

Safety glasses	
Body protection:	
Protective work clothing.	

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES Information on basic physical and chemical properties Appearance: Form: Solid in various forms Color: Silver-colored Odor: No data available Odor threshold: No data available. pH: N/A Melting point/Melting range: No data available Boiling point/Boiling range: No data available Sublimation temperature / start: No data available Flammability (solid, gas) No data available. Ignition temperature: No data available Decomposition temperature: No data available Autoignition: Product is not selfigniting. Danger of explosion: No data available. **Explosion limits:** Lower: No data available Upper: No data available Vapor pressure: N/A Density: No data available Relative density No data available.

Vapor density

		•••	1 I	,		1 1	,	· · ·			· · .	
N/A	· .	·			·			1			1	
Evaporation rate												
N/A	1		.:				1		.:			.:
Solubility in Wate	r (H											
2		· · ·			· · · .			· · .			11	
O): Insoluble	`: :	·		1				1		1	1 1	
Partition coefficie								:	.:			
Viscosity:	ı	r.			I			1				
Dynamic: N/A		··.		: • •			:			:		
Kinematic: N/A		,			1			,				
Solvent content:		'		1				1		1	`	
Organic solvents:	0,0 %	Solids	content: 1	00.0 %						÷.,		. :
Other information												
No data available		· · .			· · .			· · .	н 1 - 1		· · .	
the second	•	·			·			·				
SECTION 1	0 S	TΔR			RFA		тү					
							• •		.1	1		
Reactivity												
No data available		· · ·									· · .	
Chemical stability		· 			·			1		1	·	
Stable under reco	mmen	ded sto	orage con	ditions.		1						
Thermal decompo	osition	/ condi	tions to be	e avoide	ed:		1.	1	.'	<u>с</u>	:	. '
Decomposition wi	ill not c	occur if				•						
Possibility of haza	ardous	reactio	ons		· · .	1 I		· · .			· · .	
Reacts with strong	g oxidi	zing ag	jents		1. 			1. 			1	
Conditions to avo		:	:	:			:	1	.:	:	:	
No data available					,				,			
Incompatible mate	erials:							0.				1
Incompatible mate	erials:											
Incompatible mate	erials:											

Toxic metal oxide fume				,				
	1		.:	÷.,		.:	:	
SECTION 11. TOXICOL		\ I I N						
information on toxicological effects		·			·			·
Acute toxicity:								
The Registry of Toxic Effects of Chem	ical Sub	stances	s (RTECS	6) contai	ns acut	e toxicity	[,] data for	
components in this product.	: • •				· · .			
LD/LC50 values that are relevant for c	lassificat	lion:						
No data	1	·			1.1		1	·
Skin irritation or corrosion:	:					.1	÷.,	:
No irritant effect.								
Eye irritation or corrosion:		· · .			· · .			· · .
No irritant effect.								
Sensitization:		·			·			·
May cause an allergic skin reaction.				÷.,			÷.,	-
Germ cell mutagenicity:								
The Registry of Toxic Effects of Chem	ical Subs	stances	s (RTECS	S) contai	ns muta	ation data	a for	· · .
components in this product.								
Carcinogenicity:	:			:			:	
Suspected of causing cancer.	1			1.			1	:
ARC-2B: Possibly carcinogenic to hu	mans: lin	nited ev	/idence ir	n human	s in the	absence	e of	
sufficient evidence in experimental an		· · .	н 1 — 1		· · .	н 1 — 1	111	· · .
EPA-CBD: Carginogenic potential can		etermir	ned.	· .	·			·
ACGIH A4: Not classifiable as a huma								
n								
erms of its carcinogenicity in humans	and/or a	nimals						
The Registry of Toxic Effects of Chem	ical Sub	stances	s (RTECS	S) contai	ns tumo	oridenic a	and/or	· · .

Reproductive toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product. Specific target organ system toxicity - repeated exposure:

Causes damage to the lung, the kidneys and the liver through prolonged or repeated exposure. Route

of exposure: Inhalative.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

No effects known.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for

components in this product.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

SECTION 12. ECOLOGICAL INFORMATION

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			1	.:				1		
dability										
· · .		: • •	· · .		;**	· · .	н 1. т.	111	· · .	
ntial			1			1		`:	1	
	dability	Idability	idability	idability	idability	Image: Second	Max Max <thmax< th=""> <thmax< th=""> <thmax< th=""></thmax<></thmax<></thmax<>	idability Mability	Max Max <thmax< th=""> <thmax< th=""> <thmax< th=""> Max</thmax<></thmax<></thmax<>	Instrument Instrument

		1 1				'		11			
No data available	·			·		· .	·			1	
Mobility in soil											
No data available						1.		.1			
Additional ecological in	oformati	on:									
Do not allow product to	reach	groundwa	iter, wa	iter cou	rses, or	sewage	system	S.		11	
Do not allow material to	o be rel	eased to t	he env	rironme	nt withou	ıt official	permits	S. , · ·		1	
Danger to drinking wat	er if eve	en small q	uantitie	es leak	into the g	ground.		:	:		:
Avoid transfer into the	environ	ment.	,			,	ı	,	,	i i	
Results of PBT and vP	vB asse	essment				111	· · .		: • •		
PBT:											
N/A	<u>'</u>			·			<u>'</u>			1	. '
vPvB:			1		.:	÷.,					
N/A											
Other adverse effects	11			· · .			· · .			· · .	
No data available	·		· .	1			1			·	
		,	1		,						
											.1
SECTION 13. [_		_	_							
Waste treatment metho	ods	н н н		• •	н 1 — 1	111	· · · .	н 1 — 1		11. 1	
Recommendation	5			·			1			1	
Consult official regulati	ions to e	ensure pro	oper dis	sposal.							
Uncleaned packagings	51	. '	· .	1	. '	÷.					. '
Recommendation:											
Disposal must be made	e accor	ding to off	icial re	gulatior	IS.		· · .	1 - 1		· · · .	
·····											. 1
								1		1	:
SECTION 14. 1		19201	KI IN				r				
UN-Number			: • •	,					; • •		
DOT, ADN, IMDG, IAT				,			-			-	

N/A

			· · ·		1 1 1	· · · ·			11	
UN proper shipping name			·			1			1	
DOT, ADN, IMDG, IATA										
N/A		1								
Transport hazard class(es)										
DOT, ADR, ADN, IMDG, IA	ΓA					· · .			11	
Class									1 1	
N/A										
Packing group	. '	÷.,		.'	· .	:	. '		1	
DOT, IMDG, IATA		; • •								
N/A				1 I						
Environmental hazards:		1	'			1 1			1	
Marine pollutant (IMDG):								÷.,		
No										
Special precautions for user			· · .	н 1 - 1		· · .		1.1	· · .	
N/A										
Transport in bulk according	to Annex	II of MAR								
N/A								1		
Transport/Additional informa	ation:									
DOT to the second			· · · ,	н 1 — 1		· · .		1.1.1	· · .	
Marine Pollutant (DOT):		· .	·			·			·	
No								;		
								÷		

SECTION 15. REGULATORY INFORMATION

Safety, health a	and env	vironme	ntal regu	lations/le	egislatio	on specif	ic for the	substa	ince or m	nixture	
GHS GHS labe											
Hazard pictogra						, i	÷.				
GHS07 GHS08	;	··		111	· · .	: : .	:··	· · .			
Signal word	1	1		1	1			1	111		

			1 1 1	· · ·			· · .			· · ·	
Danger	·			·		1	·			1	
Hazard-determinir	ng compone	ents of labe	eling:								
Nickel			1								
Hazard statement	S										
H317 May cause a	an allergic s	kin reactio	n.	· · · .			11.			· · · .	
H351 Suspected of	of causing c	ançer.	· .	1			·			1	
H372 Causes dan exposure.	nage to the	lung, the k	idneys	and the	e liver thr	ough pro	olongeo	d or repea	ated	;	,
Route of exposure	e: Inhalative										
Precautionary stat	ements				н 1 - 1		11.			11.	
P260 Do not breat	the dust/fum	ne/gas/mis	t/vapor	s/spray	/		·			1	
P261 Avoid breath	ning dust/fur	me/gas/mis	st/vapo	rs/spra	у.						
P280 Wear protec	tive gloves/	protective	clothing	g/eye p	orotection	/face pro	otection	.' I.	· .		
P363 Wash conta	minated clo	thing befor	e reuse	Ð.							,
P405 Store locked		1 1						1 1			,
P501 Dispose of c	contents/cor	ntainer in a	ccorda	nce wit	h local/re	egional/n	ational	/internatio	onal	1.1	
regulations.Nation	al regulation	ns						.1			
All components of											
Substances Contr	ol Act Chem	nical subst	ance In	ventor	y.		· · .		111		
All components of				Canad	dian Dom	estic Su	bstance	es List (D	OSL).		
SARA Section 313	3 (specific to	oxic chemi	cal listir							1 A A	
				igs)		,					
7440-02-0 Nickel											,
7440-02-0 Nickel 77.0%	4. E	ji L									,
				:	.1	31	:	.1	41	:	
77.0% 7440-47-3 Chromi 15.5%	iùm \cdots	н 1. т.	4) (**		.# 1	4). 200	: 	.4 1	4). 111	1 	
77.0% 7440-47-3 Chromi 15.5% California Proposi	ium										
77.0% 7440-47-3 Chromi 15.5%	ium										
77.0% 7440-47-3 Chromi 15.5% California Proposi Prop 65 - Chemica 7440-02-0 Nickel	tion 65 als known to	o cause ca	ncer								
77.0% 7440-47-3 Chromi 15.5% California Proposi Prop 65 - Chemica 7440-02-0 Nickel	ium	o cause ca	ncer								
77.0% 7440-47-3 Chromi 15.5% California Proposi Prop 65 - Chemica 7440-02-0 Nickel	ium tion 65 als known to	o cause ca	ncer								

			1		· · ·	1		114	
None of the ingredients are listed.		·			·			1	
Prop 65 - Developmental toxicity, femal									
None of the ingredients are listed.	1		.:	1		.1			
Prop 65 - Developmental toxicity, male									
None of the ingredients are listed.					· · · .				
Information about limitation of use:		'			'		1	1	
For use only by technically qualified ind	lividuals		;	;	:	;	:	:	
This product is subject to the reporting	requiren	nents c	of section	313 of tl	ne Eme	ergency l	Planning	and	
Community Right to Know Act of 1986	and 40C	FR372	2.						
Other regulations, limitations and prohil	bitive reg	gulatio	ns						
Substance of Very High Concern (SVH	C) accoi	ding to	o the REA	ACH Reg	Julation	is (EC) N	lo. 1907/	2006.	
Substance of Very High Concern (SVH None of the ingredients are listed.	С) ассон	rding to	o the REA	ACH Reg	Julation	is (EC) N	lo. 1907/	2006.	
		}	.:		-		1	2006.	
None of the ingredients are listed.	to Artic	e 67 a	nd Annex	x XVII of	the Re	gulation	(EC) No	2006.	
None of the ingredients are listed. The conditions of restrictions according	to Artic	e 67 a	nd Annex	x XVII of	the Re	gulation	(EC) No	2006.	
None of the ingredients are listed. The conditions of restrictions according 1907/2006 (REACH) for the manufactur	to Articl ring, pla	le 67 a cing or	nd Annex	k XVII of ket and u	the Re	gulation	(EC) No	2006.	
None of the ingredients are listed. The conditions of restrictions according 1907/2006 (REACH) for the manufactur None of the ingredients is listed.	to Articl ring, pla (requirin	le 67 a cing or g Auth	nd Anne n the mar orisation	k XVII of ket and u for use)	the Re use mu	gulation ist be ob	(EC) No served.		
None of the ingredients are listed. The conditions of restrictions according 1907/2006 (REACH) for the manufactur None of the ingredients is listed. Annex XIV of the REACH Regulations (to Articl ring, pla (requirin	le 67 a cing or g Auth	nd Anne n the mar orisation	k XVII of ket and u for use)	the Re use mu	gulation ist be ob	(EC) No served.		

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.