Safety Data Sheet



Acc. to OSHA HCS

Printing Date: 10/6/2017			Reviewed on:	10/6/2017	
1 Identification					
· Product identifier					
. Trado namo:		AWS A5.1 M	ild steel cover	red electrodes	; (E6011, E6013,
inde name.		E7014, E7018, E7018AC)			
· CAS Number: -		· EINECS Number: -			
 Application of the substance / the 	Application of the substance / the mixture: Shielded Metal Arc Welding Electrode				
Details of the supplier of the safet	y data sheet.		Manufacture	r/Supplier:	
Forney Industri	ies, Inc., 2057 Vei	rmont Drive, Fo	ort Collins, CO	80525	
 Forney SKUs: 30301, 30305, 30401, 30690, 30701, 30705, 30801, 30805, 3031610, 31650, 32001, 32005, 32101, 3242452,42453, 42454, 42455, 42456, 4242467, 42468, 42801, 45461, 45889 	30405, 30410, 30 0810, 30905, 3091 2105, 32110, 3220 457, 42458, 4245	9505, 30510, 30 10, 31101, 3110 95, 32210, 4010 9, 42460, 4246)680, 30681, 3)5, 31201, 312)2, 40202, 424 1, 42462, 4246	0684, 30685, 3 05, 31210, 31 47, 42448, 42 63, 42464, 424	30686, 30689, 305, 31310, 449, 42451, 465, 42466,
 Contact Information: 	1-800-521-6038				
 Emergency telephone number: 	1-800-535-5053				
2 Hazard(s) identification					
Classification of the substance or mi	xture:	The produc	ct is not classif	ied according	to the Globally
Label elements -			Harmonized	System (GHS).
· GHS label elements:	Void		· Signal word	d:	Void
· Hazard pictograms:	Void		· Hazard stat	tements:	Void
• NFPA ratings (scale 0 - 4)	Health = 0 Fire = 0 Reactivity = 0		HMIS (SCARE HEALTH FIRE 0 REACTIVITY	9 <i>(</i> - 4)	Health = 0 Fire = 0 Reactivity = 0
• Other hazards. Results of PBT and	PvB assessmen	it:			
• PBT: Not a	pplicable.	· vPvB:		Not applicable	<i>).</i>
3 Composition / information on in	ngredients				
Chemical characterization:	Mixtur	es			
Description:	Mixture of the s	ubstances liste	d below with ne	onhazardous a	dditions.
Product composition					
Component	E6011	E6013	E7014	E7018, E7018 AC	
Iron	50 - 100%	50 - 100%	50 - 100%	50 - 100%	
Cellulose	12.5 - 25%	< 2.5%	< 2.5%		
Titanium dioxide		12.5 - 25%	5 - 12.5%	2.5 - 25%	
Manganese	2.5 - 5%	2.5 - 5%	< 2.5%	2.5% - 5%	
Aluminium oxide			< 2.5%		
Nickel					
Rutile	2.5 - 5%	5 - 15%	5 -15%		
Feldspar		2.5 - 5%			
Ilmenite	5 - 12.5%				
Kali-feldspar			2.5 - 5%		

Calcium fluoride			0.1 - 12.5%		
4-methylquinoline					
Silicon dioxide	2.5 - 5%		5 - 12.5%	2.5 - 5%	
Magnesium salt	< 2.5%				
Calcium carbonate		2.5 - 5%	2.5 - 5%	5 - 12.5%	
Treated alumina		< 2.5%			
Dangerous Component	S:				
CAS	Component		EIN	IECS	Acute Tox.
7439-89-6	Iron		231-	096-4	0
9004-34-6	Cellulose		232-674-9		0
13463-67-7	Titanium dioxide		236-675-5		0
7439-96-5	Manganese		231-105-1		4, H332
7440-02-0	Nickel		0		0
1317-80-2	Rutile		0		0
12168-52-4	Ilmenite			0	0
1344-28-1	Aluminium oxide		215-	691-6	0
7789-75-5	Calcium fluoride		0		0
491-35-0	4-methylquinoline		0		3, H301
14808-60-7	Silicon dioxide		0		<i>4, H</i> 332
Nonhazardous Compon	ents				
CAS	Component		EINECS		Acute Tox.
7757-69-9	Magnesium salt		231-817-2		0
0	Feldspar		0		0
85029-74-9	Treated alumina		Treated alumina 0		0
68476-25-5	Kali-feldspar		0		0
1317-65-3	Calcium carbonate			0	0

4 First-aid measures

 Description of first aid measures 	
· General information:	No special measures required.
· After inhalation:	Supply fresh air; consult doctor in case of complaints.
· After skin contact:	Generally the product does not irritate the skin.
· After eye contact:	Rinse opened eye for several minutes under running water.
· After swallowing:	Seek medical treatment.
 Most important symptoms and effects, both acute and delayed 	No further relevant information available.

Indication of any immediate medical attention and special treatment needed

5 Fire-fighting measures	
Extinguishing media	
 Suitable extinguishing agents: 	Suitable to surrounding conditions
 Special hazards arising from the 	No further relevant information available
substance or mixture	
 Advice for firefighters - 	
Protective equipment:	No special measures required.
6 Accidental release measures	

· Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use respiratory protective device against the effects of fumes/dust/aerosol.

· Environmental precautions:

- Methods and material for containment Do not allow to enter sewers/ surface or ground water. and cleaning up: Pick up mechanically. 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. 7 Handling and storage · Handling:
 - · Precautions for safe handling
 - · Information about protection against explosions and fires:
 - Conditions for safe storage, including any incompatibilities
 - Requirements to be met by storerooms and receptacles:
 - Information about storage in one common storage facility:
 - · Further information about storage conditions:

8 Exposure controls/personal protection

Specific end use(s)

Ensure that suitable extractors are available on processing machines

- No special measures required. · Storage: No special requirements. Not required. None.
 - No further relevant information available.

Component	CAS	PEL	REL	TLV	EL	EV
Iron	7439-89-6	0	0	0	0	Long-term value: 1¢5n mg/m ³
		Long-term value:	Long-term	Long-term	Long-term	Long-term
Cellulose	9004-34-6		value:	value: 10	value: 10	value: 10 mg/m³ pape
		15*5**mg/m³	15*5**mg/m³	mg/m³	mg/m³	fiber, total du
		Long-term value:	See Pocket	Long-term	Long-term	Long-term
.				value: (10)	value: 10	value: 10
l itanium dioxide	13463-67-7			NIC-1** mg/m³ (** as	mg/m³ IARC	mg/m³ total
		15*mg/m³	guide App. A.	NIC-A3)	2B	dust
		Ceiling limit value:	Short-term	Long-term	Long-term	Long-term
Manganese	7439-96-5		value: 3 mg/m³; Long-	value: 0.02** 0.1ª mg/m³ as	value: 0.2mg/m³ as	value: 0.2
		5mg/m³ as Mn	term value: 1	Mn	Mn; R	mg/m³ as Mi
		Long-term value:	Long-term	Long-term	Long-term	Long-term
Aluminium oxide	1344-28-1		value:	value: 1**mg/m³ as	value: 10	value: 10*
		15*5**mg/m³	10*5**mg/m ³	AI	mg/m³	mg/m³
		Long-term value:	Long-term	Long-term	Long-term	
Calcium fluoride	7789-75-5		value: 2.5	value: 2.5 mg/m³ as F.	value: 2.5	0
		2.5 mg/m³ as F	mg∕m³ as F	BEI	mg∕m³ as F	
			Long-term	Long-term		
Silicon dioxide	14808-60-7	see Quartz listing	value: 0.05~	value:	0	0
			mg/m³	0.025**mg/m ³		
PEL = Permisib	le Exposure Lim	it. REL = Recom	mended Exposu	re Limit. TLV	= Threshold Lim	it Value.
Ingredients with bi	iological limit	values				
	-	2 mg/L Me	dium: urine; Tii	ne: prior to shi	ft; Paremeter:	Fluoride
Calcium fluoride	7789-75-5	3 mg/L Me	dium: urine; Tii	ne: prior to shi	ft; Paremeter:	Fluoride
	1	-	(haalia)	an und in a main a	· · · · · · · · · · · · · · · · · · ·	

(background, nonspecific)

** Respirable Fraction * total dust ~ Respirable dust * inhalable fraction n welding fume \$

Additional information:

The lists that were valid during the creation were used as basis.

- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Wash hands before breaks and at the end of work.

- · Breathing equipment: Filter P2
- · Protection of hands: Heat protection gloves (non-combustible)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the

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:
- Not required.

· Body protection: Protective work clothing.

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, and well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

9 Physical and chemical properties

 Information on basic physical and chemical properties General Information Appearance: · pH-value: Not applicable. · Form: Not applicable. Solid. · Flash point: · Odor: Odorless. · Flammability (solid, gaseous): Not determined. · Odour threshold: Not determined. - Decomposition temperature: Not determined. Product is not selfigniting. · Color: According to · Auto igniting: product specification. Product does not present Danger of explosion: an explosion hazard. · Vapour density: Not applicable. **Explosion** limits: · Lower: Not determined · Evaporation rate: Not applicable. Not determined. · Water: Insoluble. · Upper: Relative density: Not determined. Dynamic: Not applicable. · Partition coefficient (n-octanol/water): Not determined. Kinematic: Not applicable. 0.00% · Organic solvents: Other information No further relevant information available.

10 Stability and reactivity

- · Reactivity
- · Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications. · Possibility of hazardous reactions: No dangerous reactions known.

- Conditions to avoid
- No further relevant information available.
- · Incompatible materials:
 - No further relevant information available.
- Hazardous decomposition products:

Reasonably expected fume constituents of this product would include: cupper oxide, copper oxide, chromoxide, nickel oxide.

Reasonably expected gaseous constituents would include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 and ANSI/AWS F1.2-1992. In order to determine and evaluation of the existing problem areas, the standards EN ISO15011 --parts 1, 4 can also be applied.

· Acute toxicity:

· Primary irritant effect:

• On the skin: No irritant effect.

• Sensitization: No sensitizing effects known.

• On the eye:

No irritating effect.

· Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· IARC (Internati	onal Agency for Research on Cancer)	
13463-67-7	Titanium dioxide	2B
14808-60-7	Silicon dioxide	1
7440-47-3	Chromium	3
7440-02-0	Nickel	1
1309-37-1	Iron trioxide	3
7789-75-5	Calcium fluoride	3
· NTP (National	Toxicology Program)	
14808-60-7	Silicon dioxide	K
7440-02-0	Nickel	R

12 Ecological information

Toxicity				
 Aquatic toxicity: 		No further relevant info	ormation available.	
Persistence and degrad	dability	No further relevant info	ormation available.	
· Behavior in environme	ntal systems:			
· Bioaccumulative poten	tial	No further relevant info	ormation available.	
• Mobility in soil		No further relevant information available.		
· Additional ecological in	Additional ecological information:			
· General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water			
Results of PBT and vPvB	3 assessment:			
· PBT:	Not applicable.	· vPvB:	Not applicable.	
· Other adverse effects:	No fur	ther relevant information a	available.	

Must be specially treated adhering to official regulations.

13 Disposal considerations

Waste treatment methods

- · Recommendation:
- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information		
UN-Number -	-	
Transport hazard class(es)	-	
· ADR, IMDG, IATA	-	
· Class	-	
· Environmental hazards:	No	
Marine pollutant:	No	
·Special precautions for user	Not applicable	
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable	
Transport/Additional information:	Not dangerous according to	
	the above specifications	
UN "Model Regulation":	-	
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15 Regulatory information

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

1907/2006/EC, 1272/2008/EC Table 3.1, 67/648/EEC, EWC 2000/532/EC

Sara

Guid			
Section 355 (extremely hazardous subst	ances)		
7440-47-3	Chromium		
7723-14-0	Phosphorus		
Section 313 (Specific toxic chemical list	ings)		
7439-96-5	Manganese		
7440-50-8	Copper		
7440-47-3	Chromium		
7440-02-0	Nickel		
7440-62-2	Vanadium		
7723-14-0	Phosphorus		
7429-90-5	Aluminium powder (pyroph	noric)	
TSCA (Toxic Substances Control Act)			
7439-89-6	Iron		
9004-34-6	Cellulose		
13463-67-7	Titanium dioxide		
7439-96-5	Manganese		
7440-02-0	Nickel		
1317-80-2	Rutile		
12168-52-4	Ilmenite		
1344-28-1	Aluminium oxide		
7789-75-5	Calcium fluoride		
491-35-0	4-methylquinoline		
14808-60-7	Silicon dioxide		
7757-69-9	Magnesium salt		
0	Feldspar		
85029-74-9	Treated alumina		
68476-25-5	Kali-feldspar		
1317-65-3	Calcium carbonate		
Proposition 65 · Chemicals known to ca	use cancer		
14808-60-7	Silicon dioxide		
7440-02-0	Nickel		
Chemicals known to cause reproductive t	oxicity for females:	None of the listed ingrea	lients
· Chemicals known to cause reproductive	toxicity for males:	None of the listed ingrea	lients
· Chemicals known to cause development	al toxicity	None of the listed ingrea	lients
· Cancerogenity categories	•		
· EPA (Environmental Protection Agency	()		
7439-96-5	Manganese		D
7440-50-8	Copper		D
7440-47-3	Chromium		D
7723-14-0	Phosphorus		D
· TLV (Threshold Limit Value established	l by ACGIH)		
13463-67-7	Titanium dioxide		A4
14808-60-7	Silicon dioxide		A2
7440-47-3	Chromium		<u>A</u> 4
7439-98-7	Molybdenum		A3
7440-02-0	Nickel		A5
7429-90-5	Aluminium powder (pyroph	noric)	A4
1309-37-1	Iron trioxide		A4
7789-75-5	Calcium fluoride		ΔΔ

1344-28-1		Aluminium oxide	A4		
1332-58-7		Kaolin	A4		
1309-48-4		Magnesium oxide	A4		
25658-42-8		Zirconium nitride	A4		
· NIOSH-Ca (National I	nstitute for Oc	cupational Safety and Health)			
14808-60-7		Silicon dioxide			
13463-67-7		Titanium dioxide	Titanium dioxide		
7440-02-0		Nickel			
OSHA (Occupational S	Safety & Health	Administration)			
None of the ingredients	is listed.				
GHS label elements:	Void				
Hazard nictograms:	Void	. Hazard statements: Void			
	Volu	A Chemical Safety	Assessment has not		
Signal word:	Void Che	mical safety assessment: been carried out.			
To Other Information					
This information is based of	n our present kr	nowledge. However, this shall not constitute a gi	uarantee for any specific		
product features and shall i	not establish a le	egally valid contractual relationship.			
 Date of preparation / last i Abbreviations and acrost ADR: Accord européen sur the International IMDG: International Maritim 	revision a nyms: le transport des ne Code for Dan	10/6/2017 s marchandises dangereuses par Route (Europe ggerous Goods	ean Agreement concernin		
IATA: International Air Tran	isport Associatio	DN anto Linduatria Libraria riata			
ACGIH: American Conferen	nce of Governm	ental Industrial Hyglenists			
EINECS: European Invento	ory of Existing C	ommercial Chemical Substances			
ELINCS: European List of I	Notified Chemica	al Substances			
CAS: Chemical Abstracts S	Service (division	of the American Chemical Society)			
NFPA: National Fire Protec	tion Association	(USA)			
HMIS: Hazardous Materials	dentification S	System (USA)			
TRGS: Technische Regeln	für Gefahrstoffe	(Technical Rules for Dangerous Substances F	BAuA, Germanv)		
Acuto Tox A: Acuto toxicity	Hazard Cator	on A			
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