Low Alloy Coated Electrodes
SAFETY DATA SHEET

Issue Date: 1/6/2015 ***Revision Date:*** 10/22/2015

SECTION: 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Name: Low Alloy Coated Electrodes

Product Identification: E7010-A1, E7016-A1, E7018-A1, E8010-G, E8016-B1, E8016-B2, E8016-B6, E8016-B8, E8016-G, E8018-B2, E8018-B3L, E8018-B6, E8018-B8, E8018-C1, E8018-C2, E8018-C3, E8018-G, E8045-P2, E9015-B9, E9018-B3, E9018-B9.

Product Specification: **AWS A5.5**

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

1.2.1 Relevant identified uses: For welding consumables and related products.

1.2.2 Uses advised: **Reference the [7. Handling and storage]**

1.3 Details of the supplier of the safety data sheet:

Supplier: DURA MAX
King of Prussia, PA 19406

Emergency telephone number: 1-888-426-4851 POISON CONTROL HOTLINE

Email: customerservice@duramaxwelding.com

SECTION: 2 HAZARDS IDENTIFICATION

2.1 Classification of the mixture:

The product is placed on the market in solid form

2.1.1 *Classification in accordance with* GHS-US

Acute Tox. 4 (Oral)	H302	Carc. 1B	H350
Skin Irrit 2	H315	STOT RE 1	H372
Skin Sens. 1	H317	Aquatic Acute 1	H400
Eye Irrit. 2A	H319		

2.2 Label elements:

GHS-US labeling

Hazard Pictograms (GHS-US):


GHS07


GHS08


GHS09

Signal word (GHS-US): **Danger**

Hazard statements (GHS-US):

H302 Harmful if swallowed
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H350 May cause cancer
H372 Causes damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life

Precautionary statements:

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P261 Avoid breathing 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 into the environment
P280 Wear protectective gloves/protective clothing/eye protection/face protection.

P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of saop and water
P302+P351+P338 IF ON SKIN: Gently wash with plenty of soap and water
P308+P313 If exposed or concerned: Get medical advice/attention.
P314 Get medical advice and attention if you feel unwell
P330 Rinse mouth
P332+P313 If skin irritation occurs: Get medical advice/attention
P337+P313 If eye irritation persists get medical advice/attention
P362 Take off contaminated clothing
P362+P364 Take off contaminated clothing and wash before reuse
P391 Collect spillage
P405 Store locked up
P501 Dispose of contents and container in accordance with local/regional/national/international regulations.

2.3 Other hazards: No additional information available

2.4 Unknown acute toxicity (GHS-US): No data available.

SECTION: 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: No data available

Full text of H-phrases: see section 16

3.2 Mixtures: The mixture contains dangerous substances:

Substance name		Product Identifer (CAS No)	% Percent	GHS-US classifacation
Iron	**Fe**	7439-89-6	55.0 - 70.0	Acute Tox. 4 (Oral), H302
Calcium carbonate	**$CaCo_3$**	1317-65-3	5.0 - 12.0	Not classified
Chromium	**Cr**	7440-47-3	≤ 10.50	Not classified
Calcium fluoride	**CaF_2**	7789-75-5	TRACE	Acute Tox. Not classified (Oral)
Sodium silicate	**Na_2O-SiO_2**	1344-09-8	≤ 5.0	Acute Tox. 4 (Oral), H302
Nickel	**Ni**	7440-02-0	0.0 - 3.8	Skin Sens. 1, H317 Carc. 1B, H350 STOT RE 1, H372
Titanium dioxide	**TiO_2**	13463-67-7	≤ 3.0	Carc. 2 H351
Potassium silicate	**$K_2O_3SiO_3$**	1312-76-1	≤ 3.0	Acute Tox. 4 (Oral), H302
Potassium tatanate	**$KTiO_3$**	12030-97-6	≤ 3.0	Not classified
Manganese	**Mn**	7439-96-5	0.6 - 2.25	Not classified
Magnesium Carbonate	**$MgCO_3$**	546-93-0	≤ 2.0	Not classified
Trisodium hexafluoroaluminate	**Na_3AIF_6**	15096-52-3	≤ 2.0	Acute Tox. 4 (Inhalation), H332 STOT RE 2, H372 Aquatic Chronic 2, H411
Feldspar	**--**	68476-25-5	≤ 2.0	Not classified
Molybdenum	**Mo**	7439-98-7	0.25 - 1.2	Not classified
Aluminum oxide	**Al_2O_3**	1344-28-1	≤ 1.0	Not classified
Silicon	**Si**	7440-21-3	0.3 - 1.0	Not classified
Potassium hydroxide	**KOH**	1310-58-3	≤ 0.5	Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314
Carbon	**C**	7440-44-0	0.05 - 0.35	Not classified
Sulfur	**S**	7704-34-9	0.01 - 0.03	Skin Irrit. 2, H315

SECTION: 4 FIRST AID MEASURES

4.1 Description of first aid measures:

First-aid measures after inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

First-aid measures after skin contact: Flush with water for at least 15 minutes. Seek medical attention if irritation develops or persists.

First-aid measures after eye contact: Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if discomfort persists.

First-aid measures after ingestion: Do NOT induce vomiting. Get immediate medical attention.

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

Symptoms/injuries after inhalation: Short-term (acute) overexposure to the gases, fumes, and dusts may include irritation of the eyes, lungs, nose, and throat. Some toxic gases associated with welding may cause pulmonary edema, asphyxiation, and death.
Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty in breathing, frequent coughing, or chest pain. The presence of chromium/chromate in fume can cause irritation of nasal membranes and skin. The presence of nickel compounds in fume can cause metallic taste, nausea, tightness of chest, fever, and allergic reaction. Excessive inhalation or ingestion of manganese can produce manganese poisoning. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait resembling Parkinsonism. These symptoms can become progressive and permanent if not treated. Excessive inhalation of fumes may cause "Metal Fume Fever" with Flu-like symptoms such as chills, fever, body aches, vomiting, sweating, etc.

Symptoms/injuries after skin contact: Dusts may cause irritation.
Symptoms/injuries after eye contact: Causes eye irritation.

Symptoms/injuries after ingestion: Not an anticipated route of exposure during normal product handling. May be harmful if ingested.

4.3 Indication of any immediate medical attention and special treatment needed: No data available.

SECTION: 5 FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture: Fire may produce irritating or poisonous gases.

Fire hazard: Not flammable

Explosion hazard: None known

5.3 Advice for firefighters: In the event of fire, wear self-contained breathing apparatus and full protective gear.

SECTION: 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear appropriate personal protective equipment as specified in Section 8. Ensure adequate ventilation.

For emergency responders: No data available.

6.2 Environmental precautions: Avoid release into the enviroment. Avoid dispersal of spilled material and contact with soil, ground and surface water drains and sewers.

6.3 Methods and material for containment and cleaning up: Take up mechanically. Collect the material in labeled containers and dispose of according to local and regional authority requirements.

6.4 Reference to other sections: See Section 7 for information of safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION: 7 HANDLING AND STORAGE

7.1 Precautions and safe handling: Welding may produce dust, fumes and gases hazardous to health. Avoid breathing dust, fumes and gases. Use adequate ventilation. Keep away from sources of ignition. Avoid contact with skin, eyes and clothing. Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including and incompatibilities: Store in cool, dry and well-ventilated place. Keep away from incompatible materials. Keep away from heat and open flame.

7.3 Specific end use(s): For welding consumables and related products.

SECTION: 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters: Exposure limits were not established for this product

Silicon	**(CAS No) 7440-21-3**	
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
Manganese	**(CAS No) 7439-96-5**	
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	5 mg/m³
Aluminum oxide	**(CAS No) 1344-28-1**	
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
Titanium dioxide	**(CAS No) 13463-67-7**	
USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³
Limestone	**(CAS No) 1317-65-3**	
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
Nickel	**(CAS No) 7440-02-0**	
USA ACGIH	ACGIH TWA (mg/m³)	1.5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Chromium	**(CAS No) 7440-47-3**	
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Molybdenum	**(CAS No) 7439-98-7**	
USA ACGIH	ACGIH TWA (mg/m³)	3 mg/m³
Potassium hydroxide	**(CAS No) 1310-58-3**	
USA ACGIH	ACGIH Ceiling (mg/m³)	2 mg/m³
Magnesium Carbonate	**(CAS No) 546-93-0**	
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

8.2 Exposure controls:

Appropriate engineering controls: Local exhaust and general ventilation must be adequate to meet exposure standards.

Hand protection: Wear welding gloves.

Eye protection: Wear helmet or face shield with filter lens of appropriate shade number. See ANSI/ASC Z49.1 Section 4.2. Provide protective screens and flash goggles, if necessary, to shield others.

Skin and body protection: Wear head and body protection, which help to prevent injury from radiation, sparks, flame 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, as well as dark substantial clothing. Train the employee not to touch live electrical parts and to insulate him/herself from work and ground. Welders should not wear short sleeve shirts or short pants.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

SECTION: 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state:	Solid
Appearances:	Rods or wire
Color:	Metallic
Odor:	-
Odor threshold:	-
pH:	-
Relative evaporation rate (butylacetate=1):	-
Melting point:	-

Freezing point:	-
Initial boiling point and boiling range:	-
Flash point:	-
Self ignition temperature:	-
Decomposition temperature:	-
Flammability (solid, gas):	-
Vapour pressure:	-
Relative vapour density at 20° C:	-
Relative density:	-
Solubility(ies)	-
Log Pow:	-
Log Kow:	-
Viscosity, kinematic:	-
Viscosity, dynamic:	-
Explosive properties:	-
Oxidizing properties:	-
Explosive limits:	-

9.2 **Other information:** No additional information available.

SECTION: 10 STABILITY AND REACTIVITY

10.1 **Reactivity:** No additional information available.

10.2 **Chemical stability:** The product is stable under normal conditions. When using it may produce dangerous fumes and gases.

10.3 **Possibility of hazardous reactions:** Will not occur.

10.4 **Conditions to avoid:** None

10.5 **Incompatible materials:** None

10.6 **Hazardous decomposition products:** Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and welding consumables used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coating on the metal being welded (i.e. paint, painting, galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welders head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from the cleaning and degreasing activities).
When an electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and gas decomposition, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration. Also, new compounds not in the electrodes may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in Section 3, plus those from the base metal coating, etc., as noted above. Reasonable expected fume constituents of this product would include: Complex oxides of iron, manganese, silicon, chromium, nickel, columbium, molybdenum, copper, carbon dioxide, carbon monoxide, ozone and nitrogen oxides. Some products will also contain antimony, barium, molybdenum, aluminum, columbium, magnesium, strontium, tungsten, and or zirconium. Fume limit for chromium, nickel and or manganese may be reached before limit of 5 mg/m3 of general welding fumes is reached. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION: 11 TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects:**

Acute toxicity: Harmful if swallowed

Substance name	CAS number	LD50 oral rat (mg/kg)	ATE (oral) (mg/kg)	Comments
Low Alloy Coated Electrodes			500.000 mg/kg	bodyweight
Iron	7439-89-6	984 mg/kg	984.000 mg/kg	
Silicon	7440-21-3		3160.000 mg/kg	
Manganese	7439-96-5		9000000.000 mg/kg	

Aluminum oxide	1344-28-1	>5000 mg/kg		
Titanium dioxide	13463-67-7	>10000 mg/kg		
Nickel	7440-02-0	>9000 mg/kg		
Sodium silicate	1344-09-8	1153 mg/kg	1153.000 mg/kg	
Calcium fluoride	7789-75-5	4250 mg/kg	4250.000 mg/kg	bodyweight
Potassium silicate	1312-76-1	1300 mg/kg	1300.000 mg/kg	bodyweight
Potassium hydroxide	1310-58-3	214 mg/kg		
Carbon	7440-44-0	>10000 mg/kg		

Substance name	CAS number	LD50 oral rat (mg/kg)	LD50 dermal rabbit (mg/kg)	LD50 inhalation rat (mg/l)
Sulfur	7704-34-9	>3000 mg/kg	>2000 mg/kg	>9.23 mg/l/4h

Substance name	CAS number	LD50 oral rat (mg/kg)
Trisodium hexafluoroaluminate	15096-52-3	>5 g/kg

Skin corrosion/irritation: Causes skin irritation

Serious eye damage/irritation: Causes serious eye irritation

Respiratory or skin sensitisation: May cause an allergic skin reaction.

Germ cell mutagenicity: Not classified

Carcinogenicity: May cause cancer.

Substance name	CAS number		
Titanium dioxide	13463-67-7	IARC Group	2B-Possibly carcinogenic to humans
Nickel	7440-02-0	IARC Group	2B-Possibly carcinogenic to humans
		National Toxicology Program (NTP) Status	3-Reasonably anticipated to be Human Carcinogen
Chromium	7440-47-3	IARC Group	3- Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified

SECTION: 12 ECOLOGICAL INFORMATION

12.1 Toxicity:

Ecology - general: Very toxic to aquatic life.

Nickel	**(CAS No) 7440-02-0**
LC50 fishes 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	0.18 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC50 fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 2	0.174 - 0.311 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Sodium silicate	**(CAS No) 1344-09-8**
LC50 fishes 1	301 - 478 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
LC50 fish 2	3185 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])

Sulfur	**(CAS No) 7704-34-9**
LC50 fishes 1	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio[static])
LC50 fish 2	< 14 mg/l (Exposure time: 96 h - Species: Lepomis macrohirus[static])

Potassium silicate	**(CAS No) 1312-76-1**
LC50 fishes 1	301 - 478 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
LC50 fish 2	3185 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])

12.2 Persistence and degradability: No additional information available.

12.3 Bioaccumulative potential:

Sodium silicate	**(CAS No) 1344-09-8**
BCF fish 1	(no bioaccumulation expected)

Potassium silicate	**(CAS No) 1312-76-1**
BCF fish 1	(no bioaccumulation expected)

Potassium hydroxide	**(CAS No) 1310-58-3**
Log Pow	0.65

12.4 Mobility in soil: No additional information available.

12.5 Other adverse effects: No additional information available.

SECTION: 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Dispose of in accordance with local and national regulations.

Waste disposal recommendations**:** Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION: 14 TRANSPORT INFORMATION

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 UN Number: Not a dangerous good in sense of transport regulations

14.2 UN proper shipping name: Not applicable

SECTION: 15 REGULATORY INFORMATION

15.1 US Federal Regulations:

Iron	**(CAS No) 7439-89-6**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Silicon	**(CAS No) 7440-21-3**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Manganese	**(CAS No) 7439-96-5**
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0%

Aluminum oxide	**(CAS No) 1344-28-1**
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0% (fibrous forms)

Titanium dioxide	**(CAS No) 13463-67-7**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Limestone	**(CAS No) 1317-65-3**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Nickel	**(CAS No) 7440-02-0**
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0%

Chromium	**(CAS No) 7440-47-3**
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0%

Sodium silicate	**(CAS No) 1344-09-8**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Sulfur	**(CAS No) 7704-34-9**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Molybdenum	**(CAS No) 7439-98-7**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Calcium fluoride	**(CAS No) 7789-75-5**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Potassium silicate	**(CAS No) 1312-76-1**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Potassium tatanate	**(CAS No) 12030-97-6**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Potassium hydroxide	**(CAS No) 1310-58-3**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Carbon	**(CAS No) 7440-44-0**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Magnesium Carbonate	**(CAS No) 546-93-0**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Trisodium hexafluoroaluminate	**(CAS No) 15096-52-3**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Feldspar	**(CAS No) 68476-25-5**
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations:

Titanium dioxide	**(CAS No) 13463-67-7**			
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

Nickel	**(CAS No) 7440-02-0**			
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

Silicon	**(CAS No) 7440-21-3**
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

Manganese	**(CAS No) 7439-96-5**
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

Aluminum oxide	**(CAS No)**	**1344-28-1**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Titanium dioxide	**(CAS No)**	**13463-67-7**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Limestone	**(CAS No)**	**1317-65-3**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Nickel	**(CAS No)**	**7440-02-0**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Sulfur	**(CAS No)**	**7704-34-9**
U.S. - Massachusetts - Right To Know List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Chromium	**(CAS No)**	**7440-47-3**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Molybdenum	**(CAS No)**	**7439-98-7**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Potassium hydroxide	**(CAS No)**	**1310-58-3**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

Magnesium Carbonate	**(CAS No)**	**546-93-0**
U.S. - Massachusetts - Right To Know List		
U.S. - Minnesota - Hazardous Substance List		
U.S. - New Jersey - Right to Know Hazardous Substance List		
U.S. - Pennsylvania - RTK (Right to Know) List		

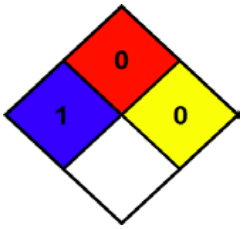
Trisodium hexafluoroaluminate	**(CAS No)**	**15096-52-3**
U.S. - New Jersey - Right to Know Hazardous Substance List		

SECTION: 16 OTHER INFORMATION

Full text of H-phrases:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Acute Tox. Not Classified (Oral)	Acute toxicity (oral), Not classified
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H350	May cause cancer
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard: 0 - Materials that will not burn.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 0 Minimal Hazard
Physical: 0 Minimal Hazard

We believe that the information contained herein is believed to be true and accurate as of the date of this SDS. All statements or suggestions are made without any warranty, expressed or implied, regarding the accuracy of the information, the hazard connected with the use of this material or the results to be obtained for use thereof. As the condition or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. It is the user's obligation to determine the conditions of safe use of these products.
All chemical products can in fact present unknown risks to health, safety and / or the environment, even in relation to the different operating conditions, and they must therefore be used with care. For this reason we cannot guarantee that the risk described in this form are the only foreseeable risks. The user must therefore satisfy himself as to the particular conditions under which it is intended to be use in. Moreover, it must be noted that the user is obliged to comply with all the legislative, administrative and regulatory provisions regarding the product and its use in terms of occupational hygiene and safety, and environmental protection, apart from the information given in the form, given purely as guidance.
Technical Department