



# SAFETY DATA SHEET

Issue Date 08-Jul-2015

Revision Date 11-Sep-2015

Version 2

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** Magnesium Chloride (from Titanium Production)

### Other means of identification

**Product Code** SAC026

**UN/ID No.** 2813

**Synonyms** Kroll reduction salt from Titanium production (Product #106-A)

### Recommended use of the chemical and restrictions on use

**Recommended Use** Chemical intermediate.

**Uses advised against**

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

ATI, 1000 Six PPG Place, Pittsburgh, PA  
15222 USA

#### **Emergency telephone number**

**Emergency Telephone** Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Substances or mixtures which, in contact with water, emit flammable gases

Category 3

### Label elements

#### **Emergency Overview**

#### **Warning**

#### **Hazard statements**

In contact with water releases flammable gases



**Appearance** flakes, chunks, Powder

**Physical state** Solid; Powder

**Odor** Odorless

#### **Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection  
Protect from moisture

#### **Precautionary Statements - Response**

In case of fire: Use salt (NaCl) or class D dry powder for extinction

**Precautionary Statements - Storage**

Store in a dry place

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Synonyms** Kroll reduction salt from Titanium production, (Product #106-A).

Chemical Name	CAS No.	Weight-%
Magnesium Chloride	7786-30-3	99
Water	7732-18-5	0-1
Magnesium	7439-95-4	0-0.1
Titanium	7440-32-6	0-0.1

**4. FIRST AID MEASURES**

**First aid measures**

**Eye contact** Flush with water for 15 minutes. See a physician.

**Skin Contact** Wash off immediately with soap and plenty of water.

**Inhalation** If excessive amounts of smoke, fume, or particulate are inhaled during processing, remove to fresh air and consult a qualified health professional.

**Ingestion** IF SWALLOWED. Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** None anticipated.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**

Non-combustible.

**Unsuitable extinguishing media** If a fire occurs in the area, avoid water contact with the product to prevent evolution of hazardous gases.

**Specific hazards arising from the chemical**

Non-combustible.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) respirator and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protective equipment as required.  
**For emergency responders** Follow Emergency Response Guidebook, Guide No. 135.

**Environmental precautions**

**Environmental precautions** See section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.  
**Methods for cleaning up** Sweep or shovel material into dry containers. Avoid creating uncontrolled dust. Wash the spill location thoroughly with water - remaining magnesium chloride residue would cause the floor to become slippery.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Magnesium chloride solutions in uncoated steel tanks may activate the metal surface so that when the tanks are drained the surfaces rust quickly consuming available oxygen. Use safe tank entry procedures with good ventilation and oxygen level monitoring.  
**Incompatible materials** Water.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL
Magnesium Chloride 7786-30-3	-	-
Water 7732-18-5	-	-
Magnesium 7439-95-4	-	-
Titanium 7440-32-6	-	-

**Appropriate engineering controls**

**Engineering Controls** Avoid generation of uncontrolled particles.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	When airborne particles may be present, appropriate eye protection is recommended. For example, tight-fitting goggles, foam-lined safety glasses or other protective equipment that shield the eyes from particles.
<b>Skin and body protection</b>	Wear protective gloves.
<b>Respiratory protection</b>	When particulates/fumes/gases are generated and if exposure limits are exceeded or irritation is experienced, proper approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminat concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid; Powder	<b>Odor</b>	Odorless
<b>Appearance</b>	flakes, chunks, Powder	<b>Odor threshold</b>	Not applicable
<b>Color</b>	Grey silver		
<b><u>Property</u></b>		<b><u>Values</u></b>	
<b>pH</b>	Not Applicable	<b><u>Remarks • Method</u></b>	
<b>Melting point/freezing point</b>	710 °C / 1310 °F		
<b>Boiling point / boiling range</b>	-		
<b>Flash point</b>	-		
<b>Evaporation rate</b>	-		Not applicable
<b>Flammability (solid, gas)</b>	-		Not flammable
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit:</b>	-		
<b>Lower flammability limit:</b>	-		
<b>Vapor pressure</b>	-		Not applicable
<b>Vapor density</b>	-		Not applicable
<b>Specific Gravity</b>	2.3		
<b>Water solubility</b>	Insoluble		
<b>Solubility in other solvents</b>	-		Not applicable
<b>Partition coefficient</b>	-		Not applicable
<b>Autoignition temperature</b>	-		Not applicable
<b>Decomposition temperature</b>	-		Not applicable
<b>Kinematic viscosity</b>	-		Not applicable
<b>Dynamic viscosity</b>	-		Not applicable
<b>Explosive properties</b>	Not applicable		
<b>Oxidizing properties</b>	Not applicable		

**Other Information**

<b>Softening point</b>	Not Applicable
<b>Molecular weight</b>	Not Applicable
<b>VOC Content (%)</b>	Not applicable
<b>Density</b>	100-110 lb/ft3
<b>Bulk density</b>	-

**10. STABILITY AND REACTIVITY**

**Reactivity**  
Not applicable

**Chemical stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous polymerization** Hazardous polymerization does not occur.

**Conditions to avoid**

Unintentional contact with water.

**Incompatible materials**

Water.

**Hazardous Decomposition Products**

None while dry and cool. Magnesium chloride heated above 110°C in the presence of moisture will evolve hydrogen chloride fumes.

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure

**Product Information**

**Inhalation** Product not classified.  
**Eye contact** Product not classified.  
**Skin Contact** Product not classified.  
**Ingestion** Product not classified.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium Chloride 7786-30-3	5000 mg/kg bw	>2000 mg/kg bw	-
Water 7732-18-5	-	-	-
Titanium 7440-32-6	> 5000 mg/kg bw	-	-
Magnesium 7439-95-4	>2000 mg/kg bw	-	-

Information on toxicological effects

**Symptoms** None known.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Product not classified.  
**Serious eye damage/eye irritation** Product not classified.  
**Sensitization** Product not classified.  
**Germ cell mutagenicity** Product not classified.  
**Carcinogenicity** Product not classified.

**Reproductive toxicity** Product not classified.  
**STOT - single exposure** Product not classified.  
**STOT - repeated exposure** Product not classified.  
**Aspiration hazard** Product not classified.

**12. ECOLOGICAL INFORMATION**

Ecotoxicity

This product as shipped is not classified for aquatic toxicity.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Magnesium Chloride 7786-30-3	2200: 72 h Desmodesmus subspicatus mg/L EC50	1970 - 3880: 96 h Pimephales promelas mg/L LC50 static 4210: 96 h Gambusia affinis mg/L LC50 static	-	140: 48 h Daphnia magna mg/L EC50 Static 1400: 24 h Daphnia magna mg/L EC50
Water 7732-18-5	-	-	-	-
Magnesium 7439-95-4	-	-	-	-
Titanium 7440-32-6	The 72 h EC50 of titanium dioxide to Pseudokirchnerella subcapitata was 61 mg of TiO2/L.	The 96 h LC50 of titanium dioxide to Cyprinodon variegatus was greater than 10,000 mg of TiO2/L. The 96 h LC50 of titanium dioxide to Pimephales promelas was greater than 1,000 mg of TiO2/L .	The 3 h EC50 of titanium dioxide for activated sludge were greater than 1000 mg/L.	The 48 h EC50 of titanium dioxide to Daphnia Magna was greater than 1000 mg of TiO2/L.

**Persistence and degradability**

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**Bioaccumulation**

.

**Other adverse effects**

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

**14. TRANSPORT INFORMATION**

<b>DOT</b>	Regulated
<b>UN/ID No.</b>	2813
<b>Proper shipping name</b>	Water Reactive Solid, n.o.s., (Magnesium Chloride)
<b>Hazard Class</b>	4.3
<b>Packing Group</b>	III
<b>Special Provisions</b>	Follow Emergency Response Guidebook, Guide No. 138

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
 ENCS - Japan Existing and New Chemical Substances  
 IECSC - China Inventory of Existing Chemical Substances  
 KECL - Korean Existing and Evaluated Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances  
 AICS - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	Yes

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5			X
Titanium 7440-32-6	X		
Magnesium 7439-95-4	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION**

<b>NFPA</b>	Health hazards 0	Flammability 0	Instability 1	Physical and Chemical Properties -
<b>HMIS</b>	Health hazards 1*	Flammability 0	Physical hazards 1	Personal protection X
<i>Chronic Hazard Star Legend</i>		<i>* = Chronic Health Hazard</i>		

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**Revision Date** 11-Sep-2015

**Revision Note**  
Updated sections 11 and 15

**Note:**  
The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**

**Additional information available from:** Safety data sheets and labels available at ATImetals.com