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**Section 1: IDENTIFICATION**

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**1.1 PRODUCT IDENTIFIER**

**Product Name:** #2 Yellow  
**Product Code:** Not available.

**1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE**

**Use:** Non-Destructive Testing.

**1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET**

**Name/Address:** Magnaflux  
3624 West Lake Avenue,  
Glenview, Illinois  
60026  
**Telephone Number:** 847-657-5300

**1.4 EMERGENCY TELEPHONE NUMBER**

**Emergency Telephone Number:** CHEMTREC 800-424-9300  
**Date of Preparation:** July 11, 2014 **Version #:** 1.0

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**Section 2: HAZARD(S) IDENTIFICATION**

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**2.1 CLASSIFICATION OF THE CHEMICAL ACCORDING TO OSHA HAZCOM 2012****Hazard class**

Combustible dust

**2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM 2012**

**Hazard Pictogram:** Not applicable.  
**Signal Word:** Warning  
**Hazard Statement:** May form combustible dust concentrations in air.  
**Prevention:** Not applicable.  
**Response:** Not applicable.  
**Storage:** Not applicable.  
**Disposal:** Not applicable.

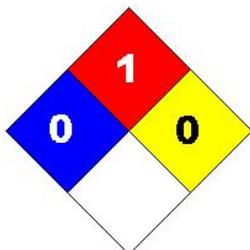
**2.3 ADDITIONAL INFORMATION**

**Hazards not otherwise specified:** Not applicable.

6 % of the mixture consists of ingredient(s) of unknown acute toxicity.

This product is a hazardous chemical as defined by NOM-018-STPS-2000.

**Mexico Classification:**



**Blue = Health   Red = Flammability   Yellow = Reactivity   White = Special**

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**WHMIS Classification(s):**

Not controlled.

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 MIXTURES**

Ingredient	UN #	H / F / R / *	CAS No	Wt. %
Iron, elemental	UN3178	Not available	7439-89-6	60 - 100
Nickel	Not available	2/1/0	7440-02-0	< 0.1
Lead, elemental	Not available	2/1/0	7439-92-1	< 0.1
Arsenic, elemental	UN1558	3/1/0	7440-38-2	< 0.1
Cadmium, elemental	UN2570	2/1/0	7440-43-9	< 0.1

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

\* Per NOM-018-STPS-2000

**Section 4: FIRST- AID MEASURES**

**4.1 DESCRIPTION OF THE FIRST AID MEASURE**

- Eye:** In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.
- Skin:** In case of contact, immediately flush skin with plenty of water. Call a physician if irritation develops and persists.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical advice/attention.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

**4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

- Eye:** Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

<b>Skin:</b>	Dust may cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
<b>Inhalation:</b>	Dust may cause respiratory tract irritation.
<b>Ingestion:</b>	May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

#### 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

<b>Note to Physicians:</b>	Symptoms may not appear immediately.
<b>Specific Treatments:</b>	In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

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### Section 5: FIRE-FIGHTING MEASURES

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#### 5.1 FLAMMABILITY

<b>Flammability:</b>	Combustible dust. Avoid generating dust as the product may form flammable dust/air mixtures.
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#### 5.2 EXTINGUISHING MEDIA

<b>Suitable Extinguishing Media:</b>	Treat for surrounding material.
<b>Unsuitable Extinguishing Media:</b>	Do not use a direct stream of water.

#### 5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

<b>Products of Combustion:</b>	May include, and are not limited to: oxides of carbon, metal oxides.
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#### Explosion Data:

**Sensitivity to Mechanical Impact:** Not available.

**Sensitivity to Static Discharge:** Not available.

#### 5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Firefighters should wear full protective clothing including self contained breathing apparatus. If improperly handled, stored and/or exposed to an ignition source, this material may burn. Airborne dust in sufficient concentrations when confined and exposed to a sufficient ignition source can explode.

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### Section 6: ACCIDENTAL RELEASE MEASURES

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#### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e. clearing dust surfaces with compressed air).

#### 6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

<b>Methods for Containment:</b>	Contain spill, then place in a suitable container. Minimize dust generation. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
<b>Methods for Cleaning-Up:</b>	Vacuum or sweep material and place in a disposal container. Provide

ventilation.

## Section 7: HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING

**Handling:** Keep away from heat, sparks, and flame. Avoid contact with skin and eyes. Do not swallow. Good housekeeping is important to prevent accumulation of dust. Avoid generating and breathing dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Use only in well-ventilated areas. Handle and open container with care. When using do not eat or drink. (See section 8)

**General Hygiene Advice:** Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

**Storage:** Keep out of the reach of children. Store in dust-tight, dry, labeled containers. Keep containers closed when not in use. Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. Store, if possible, in a cool, well ventilated place away from incompatible materials. Keep away from sources of ignition. (See section 10)

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

#### Exposure Guidelines

Ingredient	Occupational Exposure Limits	
	OSHA-PEL	ACGIH-TLV
Iron, elemental	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Nickel	1 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>
Lead, elemental	50 µg/m <sup>3</sup>	0.050 mg/m <sup>3</sup>
Arsenic, elemental	0.01 mg/m <sup>3</sup>	0.01 mg/m <sup>3</sup>
Cadmium, elemental	0.1 mg/m <sup>3</sup> (fume)	0.01 mg/m <sup>3</sup> 0.002 mg/m <sup>3</sup> (resp)
	0.2 mg/m <sup>3</sup> (dust)	
	5 µg/m <sup>3</sup>	

### 8.2 EXPOSURE CONTROLS

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is not leakage from the equipment).

### 8.3 INDIVIDUAL PROTECTIVE MEASURES

**Personal Protective Equipment:**

**Eye/Face Protection:** Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

**Skin Protection:**

**Hand Protection:** Wear chemical resistant gloves.

**Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

**General Health and Safety Measures:** Handle according to established industrial hygiene and safety practices. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Powder.
<b>Color:</b>	Not available.
<b>Odor:</b>	Odorless.
<b>Odor Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point/Freezing Point:</b>	Not available.
<b>Initial Boiling Point and Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability:</b>	Combustible dust.
<b>Lower Flammability/Explosive Limit:</b>	Not available.
<b>Upper Flammability/Explosive Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density/Specific Gravity:</b>	Not available.
<b>Solubility:</b>	Insoluble.
<b>Partition coefficient: n-octanol/water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.

<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Oxidizing Properties:</b>	Not available.
<b>Explosive Properties:</b>	Not available.

### Section 10: STABILITY AND REACTIVITY

#### 10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

#### 10.2 CHEMICAL STABILITY

Stable under normal storage conditions. Keep dry in storage. Combustible dust.

#### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

#### 10.4 CONDITIONS TO AVOID

Incompatible materials. Keep away from heat, sparks, and flame.

#### 10.5 INCOMPATIBLE MATERIALS

Oxidizers. Acids.

#### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon, metal oxides.

### Section 11: TOXICOLOGICAL INFORMATION

#### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

**Likely Routes of Exposure:** Skin contact, eye contact, inhalation, and ingestion.

**Symptoms related to physical/chemical/toxicological characteristics:**

**Eye:** Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

**Skin:** Dust may cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

**Ingestion:** May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

**Inhalation:** Dust may cause respiratory tract irritation.

**Acute Toxicity:**

Ingredient	IDLH	LC50	LD50
Iron, elemental	2,500 mg Fe/m <sup>3</sup>	Not available.	Oral > 5000 mg/kg, rat
Nickel	Not available.	Not available.	Oral >9000 mg/kg, rat
Lead, elemental	100 mg/m <sup>3</sup> (as Pb)	Not available.	Not available.
Arsenic, elemental	5 mg/m <sup>3</sup> (as As)	Not available.	Oral 763 mg/kg, rat
Cadmium, elemental	9 mg/m <sup>3</sup> (as Cd)	Inhalation 25 mg/m <sup>3</sup> 30 min, rat	Oral 2330 mg/kg, rat

#### Calculated overall Chemical Acute Toxicity Values

LC50 (inhalation)	LD50 (oral)	LD50 (dermal)
Not available.	> 2000 mg/kg, rat	Not available.
Ingredient		Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Iron, elemental		Not listed.
Nickel		G-A5, I-2B, N-2, CP65
Lead, elemental		G-A3, I-2B, N-2, CP65
Arsenic, elemental		G-A1, I-1, N-1, CP65
Cadmium, elemental		O, G-A2, I-1, N-1, CP65

\* See Section 15 for more information.

## 11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

<b>Skin Corrosion/Irritation:</b>	Based on available data, the classification criteria are not met.
<b>Serious Eye Damage/Irritation:</b>	Based on available data, the classification criteria are not met.
<b>Respiratory Sensitization:</b>	Based on available data, the classification criteria are not met.
<b>Skin Sensitization:</b>	Based on available data, the classification criteria are not met.
<b>STOT-Single Exposure:</b>	Based on available data, the classification criteria are not met.
<b>Chronic Health Effects:</b>	
<b>Carcinogenicity:</b>	Based on available data, the classification criteria are not met.
<b>Germ Cell Mutagenicity:</b>	Based on available data, the classification criteria are not met.
<b>Reproductive Toxicity:</b>	
<b>Developmental:</b>	Based on available data, the classification criteria are not met.
<b>Teratogenicity:</b>	Based on available data, the classification criteria are not met.
<b>Embryotoxicity:</b>	Based on available data, the classification criteria are not met.
<b>Fertility:</b>	Based on available data, the classification criteria are not met.
<b>STOT-Repeated Exposure:</b>	Based on available data, the classification criteria are not met.
<b>Aspiration Hazard:</b>	Based on available data, the classification criteria are not met.
<b>Toxicologically Synergistic Materials:</b>	Not available.
<b>Other Information:</b>	Not available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1 ECOTOXICITY

**Acute/Chronic Toxicity:** May cause long-term adverse effects in the aquatic environment.

### 12.2 PERSISTENCE AND DEGRADABILITY

Not available.

### 12.3 BIOACCUMULATIVE POTENTIAL

**Bioaccumulation:** Not available.

#### 12.4 MOBILITY IN SOIL

Not available.

#### 12.5 OTHER ADVERSE EFFECTS

Not available.

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### Section 13: DISPOSAL CONSIDERATIONS

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#### 13.1 WASTE TREATMENT METHODS

**Disposal Method:** This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

**Other disposal recommendations:** Not available.

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### Section 14: TRANSPORT INFORMATION

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#### 14.1 UN NUMBER

DOT	TDG	NOM-004-SCT2-1994
Not regulated.	Not regulated.	Not regulated.

#### 14.2 UN PROPER SHIPPING NAME

DOT	TDG	NOM-004-SCT2-1994
Not applicable.	Not applicable.	Not applicable.

#### 14.3 TRANSPORT HAZARD CLASS (ES)

DOT	TDG	NOM-004-SCT2-1994
Not applicable.	Not applicable.	Not applicable.

#### 14.4 PACKING GROUP

DOT	TDG	NOM-004-SCT2-1994
Not applicable.	Not applicable.	Not applicable.

#### 14.5 ENVIRONMENTAL HAZARDS

Not available.

#### 14.6 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not available.

#### 14.7 SPECIAL PRECAUTIONS FOR USER

Do not handle until all safety precautions have been read and understood.

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### Section 15: REGULATORY INFORMATION

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#### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

**Canada:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the

Controlled Products Regulations.

**US:** SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

**Mexico:** SDS prepared pursuant to NOM-018-STPS-2000.

SARA Title III				
Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Iron, elemental	Not listed.	Not listed.	Not listed.	Not listed.
Nickel	Not listed.	Not listed.	100	313
Lead, elemental	Not listed.	Not listed.	10	313
Arsenic, elemental	Not listed.	Not listed.	1	313
Cadmium, elemental	Not listed.	Not listed.	10	313

#### State Regulations

##### California Proposition 65:

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

##### Global Inventories:

Ingredient	Canada DSL/NDL	USA TSCA
Iron, elemental	DSL	Yes.
Nickel	DSL	Yes.
Lead, elemental	DSL	Yes.
Arsenic, elemental	DSL	Yes.
Cadmium, elemental	DSL	Yes.

#### NFPA-National Fire Protection Association:

<b>Health:</b>	0
<b>Fire:</b>	1
<b>Reactivity:</b>	0

#### HMIS-Hazardous Materials Identification System:

<b>Health:</b>	0
<b>Fire:</b>	1
<b>Physical Hazard:</b>	0

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

#### SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

**CP65** California Proposition 65

**OSHA (O)** Occupational Safety and Health Administration.

**ACGIH (G)** American Conference of Governmental Industrial Hygienists.

A1 - Confirmed human carcinogen.

A2 - Suspected human carcinogen.

A3 - Animal carcinogen.

A4 - Not classifiable as a human carcinogen.

A5 - Not suspected as a human carcinogen.

**IARC (I) International Agency for Research on Cancer.**

1 - The agent (mixture) is carcinogenic to humans.

2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.

3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.

4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

**NTP (N) National Toxicology Program.**

1 - Known to be carcinogens.

2 - Reasonably anticipated to be carcinogens.

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**Section 16: OTHER INFORMATION**

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**Date of Preparation:** July 11, 2014

**Expiry Date:** July 11, 2017

**Version:** 1.0

**Revision Date:** July 11, 2014

**Conforms to OSHA HazCom 2012, CPR & NOM-018-STPS-2000 Standards**

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**Prepared for:** Magnaflux

**End of Safety Data Sheet**