SAFETY DATA SHEET

Chromium

According to Regulation (EC) No.1907/2006 (REACH)

Revision 2016:

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

1.1. PRODUCT IDENTIFIERS:

Product Name: Chromium Synonyms, Trade Names: Cr

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified Uses: Optical coating material

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: TieWay International Inc. 1106 Del Mar Dr. Southlake, TX76092

2142237518

1.4. EMERGENCY TELEPHONE NUMBER

Emergency Phone: 2142237518

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident

and emergency department. The attending health professional will be able to contact the National Poisons

Information Service.

2. HAZARDS I DENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

No Hazardous Product as specified in Directive 67/548/EEC.

2.2. LABEL ELEMENTS

Precautionary Statements:

P262 Do not breathe dust/fume/gas/mist/vapours/spray.

2.3. OTHER HAZARDS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

Component Name CAS number % EC number (EINECS) EU index UN number Chromium 7440-47-3 100% 231-157-5

Chromium 7440-47-3 100%
Refer to the notes on CAS number in Section 16

4. FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

GENERAL: Consult a doctor for specific advice.

EYES: Irrigate thoroughly with water for at least 15 minutes. If discomfort persists obtain medical attention.

SKIN: Wash thoroughly with soap and water. INHALATION: Remove to fresh air. Obtain medical attention.

INGESTION: Wash out mouth thoroughly with water. In severe cases obtain Medical Attention.

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

Refer to Section 2.2 and to section 11.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No Data.

5. FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product does not burn.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

None Known

5.3. ADVICE FOR FIREFIGHTERS

Use breathing apparatus if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

None

6.2. ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage.

6.3. METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Dispose of as nomal waste.

6.4. REFERENCE TO OTHER SECTIONS

None

7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING:

7.2. Protect against physical damage and avoid generating dust.

7.3. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

No special precautions needed.

7.4. SPECIFIC ENDUSES

Optical Material for Manufacture of Optical Components.

HEALTH 0
FLAMMABILTY 0
PHYSICAL HAZARD 0
PERSONAL PROTECTION B

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8. EXPOSURE CONTROL AND PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

OCCUPATIONAL EXPOSURE LIMITS (OEL) — Total inhalable silica dust: Long term 0.1 mg/m³

EXPOSURE CONTROLS: Use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Avoid breathing dust when generated. Wash hands immediately after handling the product.

PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: FLASH POINT: Not Applicable Silver granule BOILING POINT (760mm Hg) 2672 °C FLAMMABILITY: Not Applicable MELTING POINT: 1857 °C EXPLOSIVE PROPERTIES: Not Applicable SPECIFIC GRAVITY: VAPOUR PRESSURE: 7.20 g/cc Not Applicable SOLUBILITY IN WATER: pH IN AQUEOUS SOLUTION: Not determined insoluble

9.2. OTHER SAFETY INFORMATION

10. STABILITY AND REACTIVITY

10.1. REACTIVITY 10.3. POSSIBILITY OF HAZARDOUS

REACTIONS 10.5. INCOMPATIBLE MATERIALS No data

10.2. CHEMICAL STABILITY None known Stable under normal conditions of storage 10.4. CONDITIONS TO AVOID

and use.

Avoid creating or accumulating fines or dusts 10.6 Hazardous Decomposition Products

Chromium Oxide fume

Acids, Strong Oxidizing agents, ammonium nitrite,

bromine pentafluoride and carbon dioxide

11. TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Particular care should be exercised when machining and creating dust or particles.

CARCINOGENICITY: No evidence of carcinogenic properties. TOXIC DOSE

MUTAGENICITY/TERATOGENICITY: No evidence of reproductive effects.

12. ECOLOGICAL INFORMATION

12.1. TOXICITY

No Data

12.2. PERSISTENCE AND DEGRADABILITY No Data

12.3. BIOACCUMULATIVE POTENTIAL

No Data 12.4. MOBILITY IN SOIL

No Data

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

Not required or conducted

12.6. OTHER ADVERSE AFFECTS

No environmental hazard is anticipated provided that the material is

handled and disposed of with due care and attention.

13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

The user of this material has the responsibility to dispose material in compliance with all relevant local, state, federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. 14. TRANSPORT INFORMATION

14.1. UN NUMBER: None 14.4. PACKING GROUP: None

14.2. UN PROPER SHIPPING NAME: 14.5. ENVIRONMENTAL HAZARDS: None 14.6. SPECIAL PRECAUTIONS FOR USER: None Not subject to transportation regulations. 14.3. TRANSPORT HAZARD CLASS: None 14.7. TRANSPORT IN BULK MARPOL / IBC: No Data

15. REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

TSCA: Not determined

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

The above information is believed to be correct but does not purport to be all inclusive and must be used only as a guide.