

Material Safety Data Sheet

Issue Date: 5/25/2004

MSDS Number: TN205

Product Name: H13SP1 Toner

Revision: [07]02/23/2006

Section 1 - Chemical Product and Company Identification

Product Name: H13SP1 Toner

Chemical Formula NA

CAS Number: NA (mixture)

General Use: Toner

Future Graphics LLC Part Numbers: HP1300MKI215, HP1012MKI100

Company Name: Mitsubishi Kagaku Imaging Corporation Distributor: Future Graphics LLC.

Street Address: 401 Volvo Parkway

Street Address: 1175 Aviation Place

Town: Chesapeake

Town: San Fernando

State: Virginia

State: California

Zip Code: 23320

Zip Code: 91340

Emergency Contacts: Chemtrec 1-800-424-9300

Other Contacts: Future Graphics LLC. 800 / 394-9900

| | |
|------------|--------------|
| Health | 1 |
| Fire | 1 |
| Reactivity | 0 |
| PPE | (See Sec. 8) |

<<<>>> EMERGENCY OVERVIEW <<<>>>

This product may cause irritation of the respiratory system, eyes, and skin. This product is stable under normal conditions of use.

Section 2 - Composition and Information on Ingredients

| Ingredient | Iron Oxide - Black Pigment | | | CAS No. | Proprietary | % in Mixture | 35-55 |
|------------|----------------------------|-------|-------|-----------------|-------------|--------------|-------|
| | OSHA | ACGIH | NIOSH | UNIT OF MEASURE | | | |
| TWA | 10 | 5 | 5 | mg/cu.meter | | | |
| STEL | NE | NE | NE | mg/cu.meter | | | |
| IDLH | NA | NA | 2500 | mg/cu.meter | | | |

| Ingredient | Silica, amorphous | | | CAS No. | Proprietary | % in Mixture | <5 |
|------------|-------------------|-------|-------|-----------------|-------------|--------------|----|
| | OSHA | ACGIH | NIOSH | UNIT OF MEASURE | | | |
| TWA | 80 / % SiO2 | 10 | 6 | mg/cu.meter | | | |
| STEL | NE | NE | NE | mg/cu.meter | | | |
| IDLH | NA | NA | NE | mg/cu.meter | | | |

| Ingredient | Styrene Acrylate Copolymer | | | CAS No. | Proprietary | % in Mixture | 40-60 |
|------------|----------------------------|-------|-------|-----------------|-------------|--------------|-------|
| | OSHA | ACGIH | NIOSH | UNIT OF MEASURE | | | |
| TWA | NE | NE | NE | mg/cu.meter | | | |
| STEL | NE | NE | NE | mg/cu.meter | | | |
| IDLH | NA | NA | NE | mg/cu.meter | | | |

| Ingredient | Wax | | | CAS No. | Proprietary | % in Mixture | 1-10 |
|------------|------|-------|-------|-----------------|-------------|--------------|------|
| | OSHA | ACGIH | NIOSH | UNIT OF MEASURE | | | |
| TWA | NE | 2 | 2 | mg/cu.meter | | | |
| STEL | NE | NE | NE | mg/cu.meter | | | |
| IDLH | NA | NA | NE | mg/cu.meter | | | |

- * TOTAL DUST / INHALABLE DUST
- ** RESPIRABLE DUST
- *** Refer to Section 11 - Toxicological Information

OVERALL MIXTURE:

This product is a mixture of dry chemical components. OSHA regulatory limits set for PARTICULATES NOT OTHERWISE CLASSIFIED are: 15 mg/cu.meter for TOTAL DUST / INHALABLE DUST and 5 mg/cu.meter for RESPIRABLE DUST.

Section 3 - Hazards Identification

Primary Entry Routes:

Absorption, Inhalation

Target Organs:

NA

Inhalation Effects:

Slight irritation of respiratory tract.

Eye Effects:

Dust may cause irritation by mechanical abrasion.

Skin Effects:

May cause skin irritation.

Ingestion Effects:

ND

Carcinogenicity:

NA

Medical Conditions Aggravated by Long-term Exposure:

Accumulation of dust in the respiratory system may cause moderate congestion.

Chronic Effects and/or Recommendations:

If use generates airborne particles, treat as a NUISANCE PARTICULATE (ACGIH TLV = 10 mg/cu. meter).

Section 4 - First Aid Measures

Inhalation:

Protect yourself with appropriate PPE, remove the person to fresh air. Decontaminate and begin rescue breathing if breathing has stopped and CPR if heart action has stopped. Seek prompt medical attention.

Eye:

DO NOT allow victim to rub or keep eyes tightly shut. Gently lift eyelids and immediately flush eyes with large amounts of water. Remove any contact lenses. Continue to flush for at least 30 minutes, occasionally lifting the upper and lower lids. Seek prompt medical attention.

Skin:

Quickly remove contaminated clothing. Immediately wash area with large amounts of water. Seek prompt medical attention for any reddened skin other than from washing.

Ingestion:

Never give anything by mouth to an unconscious or convulsing person. Contact a Poison Control Center (PCC). Unless the PCC advises otherwise, have the conscious and alert person drink 1 to 2 glasses of water to dilute. Induce vomiting only after recent ingestions due to the possibility of seizures. Seek prompt medical attention.

Additional First Aid Information:

NA

Section 5 - Fire Fighting Measures

| | | | |
|-------------------------------------|-------------|-----------------------------------|--|
| Flash Point: | | Flash Point Method: | |
| NA | | NA | |
| Flammability Classification: | | Auto Ignition Temperature: | |
| 1 Slight (HMIS, NFPA) | | ND | |
| LEL: | UEL: | Burning Rate: | |
| NA | NA | NA | |

Extinguishing Media:

Water spray, dry chemical, foam, carbon dioxide, or halon-type extinguishers.

Unusual Fire / Explosion Hazards:

May form flammable dust-air mixture.

Hazardous Combustion Products:

Carbon monoxide, carbon dioxide, nitrogen oxide, and smoke. Under certain conditions some aliphatic aldehydes and carboxylic acids may form.

Fire-Fighting Instructions:

Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment:

Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Containment Method:

When cleaning up spilled material, keep unnecessary people away, isolate area, and deny entry until the spilled material has been removed. Scoop up material and place in a chemical waste container. Suction up remaining material using a high efficiency vacuum cleaner. Avoid suspending particles in the air. Extreme caution should be used as material presents a slip hazard.

Reporting Requirements:

Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions:

Keep containers closed at all times. Avoid creating dust. Keep away from ignition sources.

Storage Requirements:

Product is prone to gradual oxidation which may reduce quality over time.

Regulatory Requirements:

Follow all applicable local, state, and Federal regulations.

Section 8 - Exposure Controls and Personal Protection

Ventilation

The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release in order to maintain airborne concentrations of the product below OSHA PELs (See Section 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection

IMPROPER USE OF RESPIRATORS IS DANGEROUS. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134 and 1910.137) and, if necessary, wear a NIOSH approved respirator. Select respirator based on its suitability to provide adequate worker protection for given work conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. **WARNING!** Air purifying respirators do not protect worker in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning and convenient, sanitary storage areas.

Protective Clothing and Equipment

Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear splash-proof chemical goggles and face shield when working with liquid, unless full facepiece respiratory protection is worn. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations

Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment

Separate contaminated work clothes from street clothes. Launder before reuse. Remove material from your shoes and clean personal protective equipment. Never take home contaminated clothing.

Comments

Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the restroom, or apply cosmetics.

Additional Information

NA

Section 9 - Physical and Chemical Properties

| | | | |
|-----------------------------|--|--------------------------------------|--|
| Boiling Point: NA | Freezing or Melting Point: NA | Odor Threshold: ND | Physical State: Solid |
| Viscosity: NA | Refractive Index: NA | Vapor Density (Air = 1) NA | Appearance and Odor: Black, free-flowing powder, odorless. |
| % Volatiles: NA | Surface Tension: NA | Vapor Pressures: NA | Water Solubility: Negligible |
| Density: 1.5-2.5 | Evaporation Rate: NA | Formula Weight: NA | Other Solubilities: NA |
| pH: NA | Specific Gravity where Water = 1 at 4 deg C NA | | Additional Comments: NA |

Section 10 - Stability and Reactivity

| | | |
|---|--|--|
| Stability: Stable under conditions of normal use. | Polymerization: Hazardous polymerization cannot occur. | Hazardous Decomposition Products: NA |
| Chemical Incompatibilities: NA | | |
| Conditions to Avoid: NA | | |
| Other Comments: NA | | |

Section 11 - Toxicological Information

Checked box indicates that related health effects criteria applies to the overall mixture.

Eye Effects Acute Oral Effects Acute Inhalation Effects Mutagenicity
Skin Effects Chronic Effects Carcinogenicity Teratogenicity

EXPLANATION of HEALTH EFFECTS:

Ames Test for H13SP1 Toner resulted in a negative response.

EXPLANATION of TOXICOLOGICAL CRITERIA:

Chemical Component: Iron Oxide - Black Pigment

MAGNETITE: Toxicity Data: 400 mg/kg intrapleural-mouse TDLO

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

HEALTH EFFECTS:

INHALATION: MAGNETITE: See information on metal fume fever. Repeated or prolonged exposure, greater than 10 years, may cause siderosis, a benign pneumoconiosis. Chronic bronchitis has been associated with siderosis. Dyspnea may be pronounced and increases on exposure to irritants.

ACUTE EXPOSURE:

METAL FUME FEVER: Metal fume fever, an influenza-like illness, may occur due to the inhalation of freshly formed metal oxide particles sized below 1.5 microns and usually between 0.02-0.05 microns. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. Tolerance to fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours.

CHRONIC EXPOSURE:

METAL FUME FEVER: There is no form of chronic metal fume fever; however, repeated bouts with symptoms as described above are quite common. Resistance to the condition develops after a few days of exposure, but is quickly lost in 1 or 2 days.

SKIN CONTACT:

ACUTE EXPOSURE: MAGNETITE: May cause irritation.

CHRONIC EXPOSURE: MAGNETITE: No data available.

EYE CONTACT:

ACUTE EXPOSURE: MAGNETITE: May cause conjunctivitis, choroiditis, and retinitis. Iron particles embedded in eye tissue may cause ocular siderosis. Discoloration of the iris is one of the earliest symptoms. Siderosis may spread depending on the location of the particle. Rarely, ocular siderosis may cause glaucoma.

CHRONIC EXPOSURE: MAGNETITE: No data available.

INGESTION:

ACUTE EXPOSURE: MAGNETITE: No data available.

CHRONIC EXPOSURE: MAGNETITE: No data available.

Chemical Component: Silica, amorphous

SILICON DIOXIDE:

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3, (Amorphous silica)

MEDICAL CONDITIONS AGRRAVATED BY EXPOSURE: respiratory disorders

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE: SILICON DIOXIDE: Dusts may cause irritation of the respiratory tract and coughing.

CHRONIC EXPOSURE: SILICON DIOXIDE: Exposure to dusts of amorphous silica for 6 months to 0 years may result in silicosis with symptoms of cough, chest pain, dyspnea, tachypnea, marked weakness, and weight loss. This pulmonary insufficiency may be characterized by diffuse nodular fibrosis, distortion of bronchi, bullous emphysema. Although pulmonary fibrosis has been reported from the workers exposed to amorphous silica, the crystalline form is the established cause of fibrotic response in the lung. However, the amorphous form has been reported as fibrogenic to a lesser extent. As the disease progresses, cor pulmonale, cardiorespiratory failure, and death may occur.

SKIN CONTACT:

ACUTE EXPOSURE: SILICON DIOXIDE: Prolonged skin contact with dry particulate may cause drying of the skin.

CHRONIC EXPOSURE: SILICON DIOXIDE: No data available.

EYE CONTACT:

ACUTE EXPOSURE: SILICON DIOXIDE: Dusts may cause irritation with redness and pain.

CHRONIC EXPOSURE: SILICON DIOXIDE: No data available.

INGESTION:

ACUTE EXPOSURE: SILICON DIOXIDE: The effects of ingestion are purely mechanical as the substance is inert chemically and biologically.

CHRONIC EXPOSURE: SILICON DIOXIDE: No data available.

Chemical Component: Styrene Acrylate Copolymer

Data Not Available

Chemical Component: Wax

PARAFFIN WAX:

IRRITATION DATA:

500 mg/24(s) skin-rabbit mild; 100 mg/24 hour(s) eyes-rabbit mild

TUMORGENIC DATA:

120 mg/kg implant-rat TDLo; 640 mg/kg implant-mouse TD; 660 mg/kg implant-mouse TD; 560 mg/kg TD

HEALTH EFFECTS:

ACUTE EXPOSURE:

Fumes from heated paraffin wax may cause mild nose and throat irritation with nausea. Animals exposed to paraffin vapors in a concentration sufficient to cause death within 2 hours became hyperactive and developed clonic spasms and limb flexor muscle tetanic contractions which persisted until death.

CHRONIC EXPOSURE:

A 5 year occupational exposure to high concentrations of aerosolized paraffin wax caused dyspnea and hypoxemia, progressing to lipoid pneumonia characterized pathologically by alveolitis involving large lipid-laden macrophages and interstitial fibrosis.

SKIN CONTACT:

ACUTE EXPOSURE:

May cause mild irritation. Heated liquid may burn skin. Sensitization reactions have been reported.

CHRONIC EXPOSURE:

Development of foreign body skin granulomas has been reported following occupational exposure. Paraffin wax, possibly impure, in the oil refining industry has been reported to act as a skin cancer promoter with a latent period of 20 years.

EYE CONTACT:

ACUTE EXPOSURE:

Fumes may cause mild irritation. Heated wax may burn eyes.

CHRONIC EXPOSURE:

No data available

INGESTION:

ACUTE EXPOSURE:

Paraffin wax is not digested or absorbed.

CHRONIC EXPOSURE: No data available.

Section 12 - Ecological Information

Checked box indicates that information regarding the criteria applies to the overall mixture.

Ecotoxicity Environmental Fate Environmental Degradation Soil Absorption and Mobility

EXPLANATION of APPLICABLE ECOLOGICAL CRITERIA:

NA

Section 13 - Disposal Considerations

Disposal:

Waste material may be disposed of, incinerated, or recycled for its iron oxide under conditions that meet all Federal, State and Local regulations. Contact your supplier or a licensed contractor for detailed recommendations.

Disposal Regulatory Requirements:

NA

Container Cleaning and Disposal:

NA

Section 14 - Transport Information

DOT Transportation Data (49CFR 172.101)

| | | |
|--------------------------------|----------------------------------|---|
| Shipping Name: NA | Label: NA | Passenger Air and Railcar: NA |
| Shipping Symbols: NA | Special Provisions: NA | Cargo Aircraft: NA |
| Hazard Class: NA | Exceptions: NA | Oceangoing Vessel Stowage: NA |
| ID Number: NA | Non-bulk Packaging: NA | Other: NA |
| Packing Group: NA | Bulk Packaging: NA | |

EXPLANATION of APPLICATION TRANSPORTATION CRITERIA:

NA

Section 15 - Regulatory Information

Checked box(es) indicate that the chemical is subject to the associated regulatory requirements and/or appears on the associated chemical inventory list

| Chemical Component: | | CAS # | Proprietary | |
|----------------------------|--------------------------|---------------------------|--------------------------|---|
| Iron Oxide - Black Pigment | | | | |
| 40 CFR 261.33 | <input type="checkbox"/> | CAA 40 CFR 112 | <input type="checkbox"/> | TSCA inventory (US) <input checked="" type="checkbox"/> |
| 40 CFR 261 classified | <input type="checkbox"/> | SARA 40 CFR 311 and 312 | <input type="checkbox"/> | AICS inventory (Australia) <input checked="" type="checkbox"/> |
| RCRA Section 3001 | <input type="checkbox"/> | SARA 40 CFR 372.65 | <input type="checkbox"/> | EINECS inventory (Europe) <input checked="" type="checkbox"/> |
| CERCLA RQ established | <input type="checkbox"/> | SARA 40 CFR 355 | <input type="checkbox"/> | DSL inventory (Canada) <input checked="" type="checkbox"/> |
| 40 CFR 302.4 | <input type="checkbox"/> | OSHA 1910 1000 Z-1 tables | <input type="checkbox"/> | ECL inventory (Korea) <input checked="" type="checkbox"/> |
| CWA 40 CFR 311(b)(4) | <input type="checkbox"/> | OSHA 1910 subpart Z | <input type="checkbox"/> | ENCS inventory (Japan) <input checked="" type="checkbox"/> |
| CWA 40 CFR 307(a) | <input type="checkbox"/> | | | PICCS inventory (Phillipines) <input checked="" type="checkbox"/> |
| | | | | CHINA inventory <input type="checkbox"/> |
| Chemical Component: | | CAS # | Proprietary | |
| Silica, amorphous | | | | |
| 40 CFR 261.33 | <input type="checkbox"/> | CAA 40 CFR 112 | <input type="checkbox"/> | TSCA inventory (US) <input checked="" type="checkbox"/> |
| 40 CFR 261 classified | <input type="checkbox"/> | SARA 40 CFR 311 and 312 | <input type="checkbox"/> | AICS inventory (Australia) <input checked="" type="checkbox"/> |
| RCRA Section 3001 | <input type="checkbox"/> | SARA 40 CFR 372.65 | <input type="checkbox"/> | EINECS inventory (Europe) <input checked="" type="checkbox"/> |
| CERCLA RQ established | <input type="checkbox"/> | SARA 40 CFR 355 | <input type="checkbox"/> | DSL inventory (Canada) <input checked="" type="checkbox"/> |
| 40 CFR 302.4 | <input type="checkbox"/> | OSHA 1910 1000 Z-1 tables | <input type="checkbox"/> | ECL inventory (Korea) <input checked="" type="checkbox"/> |
| CWA 40 CFR 311(b)(4) | <input type="checkbox"/> | OSHA 1910 subpart Z | <input type="checkbox"/> | ENCS inventory (Japan) <input checked="" type="checkbox"/> |
| CWA 40 CFR 307(a) | <input type="checkbox"/> | | | PICCS inventory (Phillipines) <input checked="" type="checkbox"/> |
| | | | | CHINA inventory <input checked="" type="checkbox"/> |
| Chemical Component: | | CAS # | Proprietary | |
| Styrene Acrylate Copolymer | | | | |
| 40 CFR 261.33 | <input type="checkbox"/> | CAA 40 CFR 112 | <input type="checkbox"/> | TSCA inventory (US) <input checked="" type="checkbox"/> |
| 40 CFR 261 classified | <input type="checkbox"/> | SARA 40 CFR 311 and 312 | <input type="checkbox"/> | AICS inventory (Australia) <input checked="" type="checkbox"/> |
| RCRA Section 3001 | <input type="checkbox"/> | SARA 40 CFR 372.65 | <input type="checkbox"/> | EINECS inventory (Europe) <input checked="" type="checkbox"/> |
| CERCLA RQ established | <input type="checkbox"/> | SARA 40 CFR 355 | <input type="checkbox"/> | DSL inventory (Canada) <input checked="" type="checkbox"/> |
| 40 CFR 302.4 | <input type="checkbox"/> | OSHA 1910 1000 Z-1 tables | <input type="checkbox"/> | ECL inventory (Korea) <input checked="" type="checkbox"/> |
| CWA 40 CFR 311(b)(4) | <input type="checkbox"/> | OSHA 1910 subpart Z | <input type="checkbox"/> | ENCS inventory (Japan) <input checked="" type="checkbox"/> |
| CWA 40 CFR 307(a) | <input type="checkbox"/> | | | PICCS inventory (Phillipines) <input checked="" type="checkbox"/> |
| | | | | CHINA inventory <input type="checkbox"/> |

| Chemical Component: | Wax | CAS # | Proprietary |
|-----------------------|--------------------------|---------------------------|--|
| 40 CFR 261.33 | <input type="checkbox"/> | CAA 40 CFR 112 | <input type="checkbox"/> TSCA inventory (US) <input checked="" type="checkbox"/> |
| 40 CFR 261 classified | <input type="checkbox"/> | SARA 40 CFR 311 and 312 | <input type="checkbox"/> AICS inventory (Australia) <input checked="" type="checkbox"/> |
| RCRA Section 3001 | <input type="checkbox"/> | SARA 40 CFR 372.65 | <input type="checkbox"/> EINECS inventory (Europe) <input checked="" type="checkbox"/> |
| CERCLA RQ established | <input type="checkbox"/> | SARA 40 CFR 355 | <input type="checkbox"/> DSL inventory (Canada) <input checked="" type="checkbox"/> |
| 40 CFR 302.4 | <input type="checkbox"/> | OSHA 1910 1000 Z-1 tables | <input type="checkbox"/> ECL inventory (Korea) <input checked="" type="checkbox"/> |
| CWA 40 CFR 311(b)(4) | <input type="checkbox"/> | OSHA 1910 subpart Z | <input type="checkbox"/> ENCS inventory (Japan) <input checked="" type="checkbox"/> |
| CWA 40 CFR 307(a) | <input type="checkbox"/> | | <input type="checkbox"/> PICCS inventory (Phillipines) <input checked="" type="checkbox"/> |
| | | | <input type="checkbox"/> CHINA inventory <input type="checkbox"/> |

Section 16 - Other Information

Abbreviations: ACGIH - American Conference of Governmental Industrial Hygienists

IDLH - Immediately Dangerous to Life and Health

NA - Not Applicable to the criteria OR Not Available

ND- Not Determined OR Not Known

NE - None established

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

RCRA - Resource Conservation Recovery Act

STEL - Short Term Exposure Limit

TLV - Threshold Limit Value

TSCA - Toxic Substances Control Act

TWA - Time Weighted Average

Disclaimer: Judgements as to the suitability of information herein are the purchaser's responsibility. Although reasonable care has been taken in the preparation of such information, Mitsubishi Chemical America, Inc. extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the purchaser's intended purpose or for the consequences of its use.

Additional Comments: NA

Revision Notes: SK

<<<<< **END OF MSDS**>>>>>