

HUNT IMAGING LLC

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MATERIAL SAFETY DATA

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THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED ACCORDING TO EEC DIRECTIVE 93/112/EEC. IN ACCORDANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200, THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL. (REFER TO THE OSHA CLASSIFICATION IN SEC.I.) THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE. THE EXPOSURE TO THE COMMUNITY, IF ANY, IS QUITE DIFFERENT.

I. PRODUCT IDENTIFICATION

REVISION NO : 5
REVISION DATE : 5/19/97
PRODUCT CODE : B2.39
FILE NUMBER : PSM39TS8
PRODUCT NAME: PAGESTREAM MICR TONER SF

SYNONYMS: Electrostatic Toner Powder
CHEMICAL FAMILY: Mixture
FORMULA: Not Applicable/Mixture
DESCRIPTION: Toner Powder For Use In Electrostatic Copiers And Printers
OSHA HAZARD CLASSIFICATION: Possible skin sensitizer

II. COMPONENT DATA

PRODUCT COMPOSITION

CAS or CHEMICAL NAME: Styrene/acrylic copolymer resin
CAS NUMBER: 25767-47-9
PERCENTAGE RANGE: 30-50%
EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Styrene/acrylate copolymer
CAS NUMBER: 68240-06-2
PERCENTAGE RANGE: 10-20%
EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Iron oxide
CAS NUMBER: 1317-61-9
PERCENTAGE RANGE: 10-20%
EXPOSURE STANDARDS: Dust and fume (as Fe)
OSHA (PEL) ppm mg/cubic-meter ACGIH (TLV) ppm mg/cubic-meter
TWA TOTAL PARTICULATE: 10 FUME: 5
CEILING: None None
STEL: None None

CAS or CHEMICAL NAME: Iron oxide
CAS NUMBER: 1309-37-1
PERCENTAGE RANGE: 5 -10%
EXPOSURE STANDARDS: Dust and fume (as Fe)
OSHA (PEL) ppm mg/cubic-meter ACGIH (TLV) ppm mg/cubic-meter
TWA: TOTAL PARTICULATE: 10 FUME: 5
CEILING: None None
STEL: None None

CAS or CHEMICAL NAME: 1-Propene polymer
CAS NUMBER: 68649-58-1
PERCENTAGE RANGE: 3-7%
EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Epoxy resin
CAS NUMBER: 25036-25-3
PERCENTAGE RANGE: 3-7%
EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Lithium Stearate
CAS NUMBER: 4485-12-5
PERCENTAGE RANGE: 1-3%
EXPOSURE STANDARDS: None Established

DESCRIPTIVE NAME: Tetraalkyl Ammonium Compound
CAS NUMBER: Proprietary
ACCESS NUMBER: 1661
PERCENTAGE RANGE: 0.5-2.0%
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Carbon black
CAS NUMBER: 1333-86-4
PERCENTAGE RANGE: 1-5%
EXPOSURE STANDARDS:

	OSHA (PEL)		ACGIH (TLV)
	ppm	mg /cubic-meter	ppm mg/cubic-meter
TWA:		3.5	3.5
CEILING:		None	None
STEL:		None	None

CAS or CHEMICAL NAME: Silicon Compound
CAS NUMBER: 68909-20-6
PERCENTAGE RANGE: 0.05-0.4%
EXPOSURE STANDARDS: None established

III. PRECAUTIONS FOR SAFE HANDLING AND STORAGE

AVOID REPEATED OR PROLONGED INHALATION OF EXCESSIVE DUSTS. DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER.

STORAGE CONDITIONS: Store in a cool, dry, well ventilated place DO NOT STORE AT TEMPERATURES ABOVE: 35 Deg.C (95 Deg.F)

PRODUCT STABILITY AND COMPATIBILITY SHELF LIFE LIMITATIONS: 1 year

INCOMPATIBLE MATERIALS FOR PACKAGING: Product functional properties can be adversely effected by plastics containing plasticizers.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: None known

IV. PHYSICAL DATA

APPEARANCE: Fine black powder
MELTING RANGE: 80-100 Deg.C (176-212 Deg.F)
BOILING POINT: Not Applicable
DECOMPOSITION TEMPERATURE: No Data
SPECIFIC GRAVITY: <1.5
BULK DENSITY: 0.5-0.8 (g/cc) packed
pH @ 25 DEG.C: Not Applicable
VAPOR PRESSURE @ 25 DEG.C: Not Applicable
SOLUBILITY IN WATER: Negligible
VOLATILES, PERCENT BY weight: <0.5%
EVAPORATION RATE: Not Applicable
VAPOR DENSITY: Not Applicable
MOLECULAR WEIGHT: Not Applicable/Mixture
ODOR: Slight
COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Applicable

V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:

RESPIRATORY PROTECTION: Respiratory protection not normally needed. If significant dusting occurs, wear a NIOSH/MSHA approved dust respirator.

VENTILATION: Local exhaust ventilation is recommended if significant dusting occurs. Otherwise, use general exhaust ventilation

SKIN AND EYE PROTECTIVE EQUIPMENT: None for normal office work. Wear safety glasses for industrial use.

EQUIPMENT SPECIFICATIONS, (WHEN APPLICABLE):

RESPIRATOR TYPE: Wear NIOSH/MSHA approved respirator with HEPA filters
TYPE (This includes: gloves, boots, apron, protective suit.): Impervious

VI. FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:

FLAMMABLE: No
COMBUSTIBLE: No
PYROPHORIC: No
FLASH POINT: Not Applicable
AUTOIGNITION TEMPERATURE: No Data
FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): LEL-No Data UEL-No Data

NFPA RATINGS: Not Established

HMIS RATINGS:

Health: * 2
Flammability: 0
Reactivity: 0

EXTINGUISHING MEDIA:

Use extinguishing media suitable for surrounding materials.

FIRE FIGHTING TECHNIQUES AND COMMENTS:

See Section XI for protective equipment for fire fighting.

VII. REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE

TEMPERATURES ABOVE: No Data
MECHANICAL SHOCK OR IMPACT: None known
ELECTRICAL (STATIC) DISCHARGE: Abnormally high airborne concentrations of dust can present the possibility of an explosion with an electric discharge.

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong oxidants

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide

OTHER CONDITIONS TO AVOID: Formation of dust. Sources of ignition if dusting occurs.

SUMMARY OF REACTIVITY

OXIDIZER: No
PYROPHORIC: No
ORGANIC PEROXIDE: No
WATER REACTIVE: No

VIII. FIRST AID

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician.

SKIN: Not a skin irritant. Washing any substance off the skin with water is a good safety practice.

INGESTION: Immediately drink water to dilute. Consult a physician if symptoms develop.

INHALATION: If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough dust to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

IX. TOXICOLOGY AND HEALTH INFORMATION

ROUTES OF ABSORPTION: Inhalation, skin contact

WARNING STATEMENTS AND WARNING PROPERTIES:

REPEATED CONTACT MAY CAUSE AN ALLERGIC SKIN REACTION IN SOME INDIVIDUALS.
REPEATED INHALATION OF HIGH CONCENTRATIONS OF TONER DUST HAS CAUSED FIBROTIC CHANGES IN THE LUNGS OF LABORATORY ANIMALS. BASED ON THESE STUDIES, EXCESSIVELY DUSTY CONDITIONS SHOULD BE AVOIDED. DO NOT TAKE INTERNALLY. MAY CAUSE CANCER BASED ON ANIMAL DATA.

HUMAN THRESHOLD RESPONSE DATA

ODOR THRESHOLD: No Data

IRRITATION THRESHOLD: No Data

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: No IDLH level has been established for this product.

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE

INHALATION:

ACUTE: Exposure under non-dusty conditions should not cause any significant health effect. Under dusty conditions, irritation may occur with some accumulation of toner dust in the nose and throat.

CHRONIC: Repeated exposure under non-dusty conditions should not cause a significant health hazard. Repeated inhalation, for the lifetime of the animals, of high concentrations of a toner composed of significantly smaller sized particles has caused fibrotic changes in the lungs of laboratory animals. Based on these studies, excessively dusty conditions should be avoided.

SKIN:

ACUTE: A similar product has been tested in laboratory animals and found not to be an irritant. Animal studies conducted on a similar toner have shown that repeated skin contact may cause an allergic skin reaction in some individuals.

CHRONIC: There are no known or reported effects from repeated contact with this product.

EYE: Toner dust may cause a mechanical irritation to the eye, as any particulate may have. Tests in laboratory animals show a similar product will cause a slight conjunctival irritation in unwashed eyes but not to cause chemical irritation or to cause damage to the eye or its parts.

INGESTION:

ACUTE:

Accidental ingestion of toner may cause nausea and lethargy. Laboratory studies (conducted on a similar toner) in animals indicate it is not acutely toxic by this route.

CHRONIC:

There are no data available on the chronic ingestion of toner products. There are no known or reported effects from repeated ingestion of this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Respiratory disease, such as emphysema and asthma, under dusty conditions; diseases of the skin.

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

None known or reported

ANIMAL TOXICOLOGY

ACUTE TOXICITY:

Inhalation LC 50: No Data

Dermal LD 50: Believed to be > 2g/kg. (rabbit) , based on similar product

Oral LD 50: Believed to be > 5 g/kg. (rat), based on similar product

Irritation: Not an irritant to the skin (rabbit); Slight conjunctival irritation in unwashed eyes, not an irritant in washed eyes (rabbit); 2/9 guinea pigs gave a slight positive response to a similar product in a Buehler guinea pig sensitization study.

ACUTE TARGET ORGAN TOXICITY:

The data available show this material not to affect any target organs from acute (one-time) exposures, especially under non-dusty conditions. However, based on animal studies with a similar toner, repeated skin contact may cause an allergic skin reaction in some individuals.

CHRONIC TARGET ORGAN TOXICITY:

Repeated inhalation by laboratory animals for the lifetime of the animal has caused fibrotic changes in the lungs. These effects were observed with a toner that was composed of significantly smaller sized particles resulting in a greater respirability into the lungs of the animals than would have occurred with commercially available toners. Based on these studies, excessively dust conditions should be avoided.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:

There are no known or reported reproductive effects or effects on the developing fetus from this product or its ingredients.

CARCINOGENICITY:

Carbon black, a constituent of this mixture, has been tested for carcinogenicity in several animal species by various routes of administration. Inhalation of carbon black resulted in the production of lung tumors in rats. IARC (International Agency for Research on Cancer) evaluated this data and has classified carbon black as a known animal carcinogen and possible human carcinogen (Group 2B carcinogen). Caution should therefore be utilized while handling this product and exposures should be minimized.

MUTAGENICITY:

This product is not known or reported to be mutagenic.

A similar type toner was tested in both the Ames Salmonella and E. coli gene mutation assays and was found to be non-mutagenic in both assays.

AQUATIC TOXICITY: No Data

X. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

XI. SPILL AND LEAKAGE PROCEDURES

REPORTABLE QUANTITY: Not Applicable (Per 40 CFR 302.4)

SPILL MITIGATION PROCEDURES: This product may represent an explosion hazard in a dust form. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.

AIR RELEASE: Dust may be suppressed by the use of a water fog.

WATER RELEASE: This material is heavier than water. Divert flow of water around spill if capable of doing so. Remove material using a vacuum system and/or filter network. Filter all water prior to discharge.

LAND SPILL: A spill of this material is likely to be dusty. Remove using a vacuum system and/or other means so as to reduce the air borne concentrations. Decontaminate the spill area to reduce the slipping hazard.

SPILL RESIDUES: Dispose of per guidelines under Section XII, WASTE DISPOSAL.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS:

No extra protection required beyond that listed in Section V. In case of fire, use normal fire fighting equipment (including self-contained breathing apparatus: SCBA).

XII. WASTE DISPOSAL

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

As a nonhazardous solid waste it should be disposed of in accordance with local, state, and federal regulations by disposal in sanitary landfill.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

XIII. ADDITIONAL REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT:

The components of this product are listed on the Toxic Substance Control Act inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT TITLE III:

HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH:

Immediate (Acute) Delayed (Chronic)

PHYSICAL:

None

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:

EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:

None Established

XIV. ADDITIONAL INFORMATION

MSDS REVISION STATUS: Editorial Revision

XV. MAJOR REFERENCES

1. Siemens MICR Toner Acute Toxicity Test Battery, MB Research Laboratories, Spinnerstown, PA. Project #MB88-9198 A,B,C,D and F. Unpublished, 1988.
2. Siemens MICR Toner, Salmonella/Mammalian-Microsome Preincubation Mutagenicity Assay (Ames Test) and Escherichia Coli WP2trp uvrA Reverse Mutation Preincubation Assay, Microbiological Associates, Rockville, MD, Study #T8240.502034, Unpublished, 1988.
3. Monograph on Human Exposure to Chemicals in the Workplace: Carbon Black, NTIS PB Report: (PB86-152048), Springfield, VA: National Technical Information Service, July 1985.

4. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Vol. 65: Printing Processes and Printing Inks, Carbon Black and Some Nitro Compounds. World Health Organization, International Agency for Research on Cancer (IARC), Lyon, France 1996.

Additional references are available upon request.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. WE BELIEVE THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION, BUT MAKE NO WARRANTY THAT IT IS.