



Lanier Worldwide, Inc.
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MATERIAL SAFETY DATA SHEET

Section 1: Chemical Product and Company Information

Identity:	Cyan Developer for 5711 / 5811	MSDS No.	CP- 704
Product ID:	200-0220	Issued:	9/2/99
Synonyms & Common Names:	Cyan Developer for Lanier 5711, 5811	Supersedes:	None
Uses:	Lanier 5711, 5811 Color Copier	Date:	9/2/99
Chemical Formula:	Mixture	Prepared by:	Lanier QA/EH&S Department 770-493-2361
		Approved by:	Larry Choskey, Sr. Quality Assurance Engineer
		European Contact:	Lanier Worldwide, WSM Europe, Walter Fricke, Im Taubental D-41468 Neuss, Germany +49-2131-387-177

Section 2: Composition / Information on Ingredients

	PERCENT	CAS No.	EXPOSURE LIMITS	SOURCE
Ferrite including manganese	90 – 95 % by weight as Manganese 17-18%	N/a	5mg/m ³ 0.2mg/m ³ 0.5mg/m ³	OSHA PEL ACGIH TLV DFG MAK
Pigment	0.1 – 0.4 % by weight	N/a	N/a	N/a
Polyester resin	5 – 10 % by weight	N/a	N/a	N/a
*PEL as the product: 15mg/m ³ (total dust), 5mg/m ³ (respirable dust)				
*TLV as the product: 10mg/m ³ (total dust), 5mg/m ³ (respirable dust)				

Section 3: Hazards Identification

HMIS Rating:
FLAMMABILITY = 1 HEALTH = 1
REACTIVITY = 0 SPECIAL = none

Health Hazards (Acute, Chronic, Immediate and Potential): Minimum irritation to respiratory tract may occur as with exposure to any non-toxic dust. May cause gasping if inhaled. Inhalation of excessive amounts of manganese may cause pneumonitis. May cause eye irritation.
Health Hazards of Long Term exposure (Chronic): Prolonged inhalation of excessive amounts of manganese may cause lung damage and nervous system effects. Use of this product does not result in inhalation of excessive amounts of manganese.

Section 4: First Aid Measures

Inhalation:	Remove to fresh air if effects occur. Gargle with water. Get medical attention if needed.	Eye Contact:	In case of contact, immediately flush eyes with water for 15 minutes. Get medical attention if needed.
Skin Contact:	Wash with soap and water.	Ingestion:	Dilute stomach contents with several glasses of water. Get medical attention if needed.

Section 5: Fire Fighting Measures

Suitable extinguishing media: CO₂, dry chemical, foam or water.
Extinguishing media which may not be used for safety reasons: none

Unusual Fire and Explosion Hazards: Toner material, like most organic material in powdered form, is capable of creating a dust explosion.

Flammability: Non-flammable solid The decomposition products are CO, CO₂, and No_x. Avoid inhalation of smoke.
Special protective equipment for fire fighters: none
UEL: n/a LEL: n/a

Section 6: Accidental Release Measures

Spill / leak Procedures: If spilled, sweep up using an approved toner vacuum with a 0.5 micron filter or smaller, such as the Atrix AAA Toner Vacuum or 3M Toner Vacuum. Use of a vacuum cleaner not rated for toner particles, could result in a fire or personal injury. Remove residue with soap and cold water.
Miscellaneous: Keep product out of sewers and watercourses.
Personal protection: Avoid inhalation of dust.

Section 7: Handling and Storage

Special Handling: Cleanse skin after contact before breaks or meals, and end of workday.
Special Storage: Store in a cool, dry place. Avoid direct sunlight. Keep out of reach of children. Keep from contact with oxidizing materials. Do not handle in windy areas. Flying powder may enter eyes. Minimize inhalation of dust. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work periods.
Miscellaneous:

Section 8: Exposure Control and Personal Protection Information:

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Respiratory Protection: none required under normal use.

Hand Protection: none required under normal use.

Eye Protection: none required under normal use.

Ventilation: Local exhaust equipment is needed.

Skin Protection: none required under normal use.

Exposure Guidelines: USA OSHA (TWA/PEL) : 15mg/m³ (Total Dust); 5mg/m³ (Respirable fraction)

ACGIH (TWA/TLV) : 10mg/m³ (Total dust); 3mg/m³ (Respirable fraction)

DFG (MAK) : 4mg/m³ (Inhalable fraction); 1.5mg/m³ (Respirable fraction)

Section 9: Physical and Chemical Properties

CHARACTERISTICS:

Appearance:	Cyan	Melting point:	85 – 120°C (softening point)
Form:	Powder	Vapor pressure:	n/a
Odor:	Slight plastic odor	Vapor density:	n/a
Solubility in Water:	Negligible	Evaporation rate:	N/a
Density:	4.0 – 6.0	Boiling point:	N/a
Flammability:	Non-flammable solid (according to test methods of USA 16 CFR 1500.44 and annex V of EU Directive 84/449/EEC)	Fat solubility:	Partially soluble in toluene and xylene

Section 10: Stability and Reactivity

Conditions to avoid: none

Materials to avoid: none

Stability: Stable

Hazardous decomposition products: CO and CO₂ and other decomposition products when burned.

Section 11: Toxicological Information:

Acute Toxicity: Inhalation: (Data from similar material without ferrite): LC50:>4.93mg/L/4hr (rats) (Mean maximum attainable concentration)

Ingestion: (Data from the ferrite): LD50:>2000mg/kg (rats)

Eye: (Data from the ferrite): Not classified as irritant, according to OSHA Haz Com Standard and EU Directive 67/548/EEC based on test data of rabbits.

Sensitizer: No sensitizer according to Annex I of EU Directive 67/548/EEC and strong sensitizer list of FHSA.

Mutagenicity: (Data from the ferrite): Ames test negative

Reproductive Toxicity: Manganese and its organic compounds: There is a study showing that prolonged inhalation of excessive amounts of manganese may cause adverse effects on the fertility of male workers. However, normal use and handling of this product as intended does not result in inhalation if excessive amounts of manganese.

Carcinogenicity: Carbon Black: IARC 2B (Possible human carcinogen based on animal testing). Not listed in NTP, OSHA(USA) regulation, California Proposition 65 and Annex I of EU Directive 67/548/EEC.

Section 12: Environmental / Ecological Information

No information indicating any adverse ecological effects.

Section 13: Disposal Consideration

Used Toner should be disposed of under conditions that meet all federal, state and local environmental regulations. Disposal regulations vary from locality to locality, therefore consult your local Lanier office or the EPA to determine the proper method for disposal. Do not incinerate loose or spilled Toner.

Section 14: Transportation Information

None. This is not a hazardous product.

Section 15: Regulatory Information

SARA Title III, 313: Chemical name: Manganese compounds 90 - 95% weight (as manganese metal)

USA Label Information: CAUTION! Do not breathe dust, Do not taste or swallow. Prolonged inhalation of excessive amounts of manganese may cause lung damage and nervous system effects.

Section 16: Miscellaneous Information

Judgment as to the suitability of information contained herein for user's purposes is the responsibility of the purchaser. Therefore, although reasonable care has been taken in the preparation of this information, Lanier Worldwide, Inc. extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to user's intended purposes or for consequences of its use. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we do not guarantee that these are the only hazards that exist.

Information on this data sheet represents our current data and best opinion as to the proper use in handling of this product under normal conditions. On the basis of the data available to us, this product is not a dangerous substance. One should, however, observe the usual precautionary measures for dealing with chemicals.