

**MATERIAL SAFETY DATA SHEET**  
MAY BE USED TO COMPLY WITH OSHA'S  
HAZARD COMMUNICATION STANDARD  
29CFR 1910.1200

**CLOVER TECHNOLOGIES**  
4200 COLUMBUS STREET  
OTTAWA, ILLINOIS 61350



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INFORMATION TELEPHONE NUMBER 1-919-774-3808

DATE PREPARED:02/01/07

SIGNATURE OF PREPARER (OPTIONAL)

**SECTION 1 CHEMICAL PRODUCT / NAME**

**Product/Chemical Name:** Dell 310-4587 / W5300 Toner

**CAS Number:** Mixture

**Other Designations:** N/A

**General Use:** Laser Printer

**SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS**

| Ingredient Name:                                                      | CAS<br>NUMBER | EU<br>NUMBER | %     | OSHA<br>PEL          | ACGIH<br>TLV         | OTHER<br>LIMITS |
|-----------------------------------------------------------------------|---------------|--------------|-------|----------------------|----------------------|-----------------|
| Toner is regulated under OSHA as particulate not otherwise regulated: |               |              |       |                      |                      |                 |
| Polyester Resin                                                       | Confidential  |              | 50-80 |                      |                      |                 |
| Polyester/styrene Acrylic Resin                                       | Confidential  |              | 10-30 |                      |                      |                 |
| Carbon Black                                                          | 1333-86-4     |              | 5-10  | 3.5mg/m <sup>3</sup> | 3.5mg/m <sup>3</sup> |                 |
| Wax                                                                   | 8015-86-9     |              | 1-5   |                      |                      |                 |
| Charge Control Agent                                                  | 42405-40-3    |              | 1-5   |                      |                      |                 |
| Silica                                                                | 67762-90-7    |              | 0-2   |                      |                      |                 |
| Silicon Carbide                                                       | 409-21-2      |              | 0-2   |                      |                      |                 |

**NDA = NO DATA AVAILABLE**

**N/A = NOT APPLICABLE**

**SECTION 3 HAZARDOUS IDENTIFICATION**

**Primary Entry Routes:** Inhalation

**NFPA/HMISDell**

|                     |          |
|---------------------|----------|
| <b>HEALTH</b>       | <b>1</b> |
| <b>FLAMMABILITY</b> | <b>1</b> |
| <b>REACTIVITY</b>   | <b>0</b> |
| <b>PPE (Sec.8)</b>  | <b>-</b> |

**Carcinogenicity:**

Carbon Black was reclassified as a Group 2B by IRAC in 1996 based on the results of only the inhalation study in rats. However, there was not observed the incidence of tumors on the results on dermal or oral studies. Also 2-years inhalation study using toner containing carbon black showed no association between toner exposure and animal tumors.

**Medical Conditions Aggravated By Long-Term Exposure:** Not Applicable

**Chronic Effects:**

Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged internal.

Use of this product, as intended, does not result in inhalation of excessive dust.

**SECTION 4 FIRST AID MEASURES**

**Inhalation:** Gargle with water, move to place in fresh air. If unsuccessful, get medical attention.

**Eye Contact:** In case of contact immediately flush with plenty of low pressure water for at least 15 minutes. Remove any contact lenses to ensure thorough flushing.

**Skin Contact:** Wash well with soap and running water.

**Ingestion:** Dilute stomach with several glasses of water. If unsuccessful, get medical help.  
*After first aid, get appropriate in-plant paramedic or community medical support if serious signs and symptoms persist.*

**Note to Physicians:** N/A

**Special Precautions / Procedures:** N/A

## SECTION 5 FIRE FIGHTING MEASURES

**Flash Point:** N/A

**Flash Point Method:** N/A

**Burning Rate:** N/A

**Auto Ignition Temperature:** Not Determined

**LEL:** N/A

**UEL:** N/A

**Flammability Classification:** 1 Slight (HMIS, NFPA)

**Extinguishing Media:** Water spray, dry chemical, foam, carbon dioxide, or halon type extinguishers.

**Unusual Fire or 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 controls methods to sewers or waterways.

**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with full face piece operated in pressure-demand or positive-pressure mode.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Spill / Leak Procedures:** N/A

**Small Spills:** Scoop into a container for disposal, suction up remaining material with a high efficiency vacuum cleaner.

**Large Spills:** Scoop into a container for disposal, suction up remaining material with a high efficiency vacuum cleaner.

**Containment:** For large spills, avoid suspending particles, collect for later disposal. Do not release into sewers or waterways.

**Cleanup:** No special requirements.

**Regulatory Requirement:** N/A

## SECTION 7 HANDLING AND STORAGE

**Handling Precautions:** Keep containers closed at all times. Avoid creating dust. Keep away from ignition sources.

**Storage Requirements:** Store in a cool, dry location.

**Regulatory Requirement:** N/A

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering Controls:

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (sec.2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

### Administrative Controls:

**Respiratory Protection:** Seek professional advise prior to respirator selection and use.  
Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operation (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purified respirators do not protect workers in oxygen-deficient atmospheres.*

**Protective Clothing/Equipment:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (29CFR 1910.133). Contact lenses are not eye protective devices. Appropriate protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** Make emergency eyewash stations and washing facilities available in work area.

**Contaminated Equipment:** Separate contaminated work clothing from street clothes. Launder before re-use. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in works areas. Practice good personal hygiene after using this material, especially before eating, drinking, using the toilet, or applying cosmetics.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

|                               |                                        |                                |           |
|-------------------------------|----------------------------------------|--------------------------------|-----------|
| <b>Physical State:</b>        |                                        | <b>Water Solubility:</b>       | Insoluble |
| <b>Appearance and Odor:</b>   | Black, free flowing powder, faint odor | <b>Other Solubilities:</b>     | N/A       |
| <b>Odor Threshold:</b>        | N/A                                    | <b>Boiling Point:</b>          | N/A       |
| <b>Vapor Pressure:</b>        | N/A                                    | <b>Freezing/Melting Point:</b> | N/A       |
| <b>Vapor Density (Air=1):</b> | Heavier than air.                      | <b>Viscosity:</b>              | N/A       |
| <b>Formula Weight:</b>        | N/A                                    | <b>Refractive Index:</b>       | N/A       |
| <b>Density:</b>               | N/A                                    | <b>Surface Tension:</b>        | N/A       |
| <b>Specific Gravity:</b>      | (H <sub>2</sub> O)=1, at 4°C): 1.21    | <b>% Volatile:</b>             | N/A       |
| <b>pH:</b>                    | N/A                                    | <b>Evaporation Rate:</b>       | N/A       |

**SECTION 10 STABILITY AND REACTIVITY**

|                                          |                               |
|------------------------------------------|-------------------------------|
| <b>Stability:</b>                        | Stable                        |
| <b>Polymerization:</b>                   | None                          |
| <b>Chemical Incompatibilities:</b>       | None applicable in normal use |
| <b>Conditions to Avoid:</b>              | None applicable in normal use |
| <b>Hazardous Decomposition Products:</b> | Will not occur                |

**SECTION 11 TOXICOLOGICAL INFORMATION**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                                      |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------|--------------------|
| <b>Acute Toxicity:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   | <b>Sensitization:</b>                |                    |
| Acute Oral Toxicity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Rat: >= 5000mg/kg | Acute Skin Irritation:               | Non-Irritant       |
| Acute Dermal Toxicity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A               | Acute Eye Irritation:                | Not Applied        |
| Acute Inhalation Toxicity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N/A               | Acute Allergenic Effects:            | Non-skin sensitive |
| <b>Special Effects:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                                      |                    |
| In 1996 IARC reevaluated Carbon Black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that include particle overload of the lung. Studies performed in animal models other than rats have not demonstrated as association between carbon black and lung tumors. Moreover, 2-years cancer bioassay using a typical toner preparation containing carbon black did not demonstrate an association between toner exposure and tumor development in rats. |                   |                                      |                    |
| <b>Carcinogenicity:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                                      |                    |
| Negative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                      |                    |
| <b>Productive System:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   | No data is available on this product |                    |
| N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                      |                    |

**SECTION 12 ECOLOGICAL INFORMATION**

|                                    |     |
|------------------------------------|-----|
| <b>Ecotoxicity:</b>                | N/A |
| <b>Environmental Fate:</b>         | N/A |
| <b>Environmental Degradation:</b>  | N/A |
| <b>Soil Absorption / Mobility:</b> | N/A |

**SECTION 13 DISPOSAL CONSIDERATIONS**

|                                          |                                                                                                                                                         |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Disposal:</b>                         | Waste material may be incinerated / or recycled for its Iron Oxide under conditions which meet all federal, state, and local environmental regulations. |
| <b>Disposal Regulatory Requirements:</b> | N/A                                                                                                                                                     |
| <b>Container Cleaning and Disposal:</b>  | N/A                                                                                                                                                     |

**SECTION 14 TRANSPORT INFORMATION**

**DOT Transportation Data (49 CFR 172.101):** Not specifically listed.

|                            |     |                                 |                                    |
|----------------------------|-----|---------------------------------|------------------------------------|
| <b>Shipping Name:</b>      | N/A | <b>Packaging Authorizations</b> | <b>Quantity Limitations</b>        |
| <b>Shipping Symbol:</b>    | N/A | a) Exceptions:                  | N/A                                |
| <b>Hazard Class:</b>       | N/A | b) Non-bulk Packaging:          | N/A                                |
| <b>ID No:</b>              | N/A | c) Bulk Packaging:              | N/A                                |
| <b>Packing Group:</b>      | N/A |                                 |                                    |
| <b>Label:</b>              | N/A |                                 |                                    |
| <b>Special Provisions:</b> | N/A |                                 |                                    |
|                            |     |                                 | <b>Vessel Stowage Requirements</b> |
|                            |     |                                 | a) Vessel Stowage: N/A             |
|                            |     |                                 | b) Other: N/A                      |

**SECTION 15 REGULATORY INFORMATION**

**EPA Regulations:**

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)  
RCRA Hazardous Waste Classification: (40 CFR 261): Not classified  
CERCLA Hazardous Substance (40 CFR 302.4) listed unlisted specific per RCRA, sec. 3001;  
CWA sec.311 (b)(4);  
CWA, Sec. 307(a),CAA,Sec.112  
CERCLA Reportable Quantity(RQ), Not listed  
SARA 311/312 Codes: N/A  
SARA Toxic Chemical (40 CFR 372.65): Not listed  
SARA EHS (Extremely Hazardous Substance) (40CFR 355): Not listed, Threshold Planning Quantity (TPQ)

**OSHA Regulations:**

Air Containment (29 CFR 1910.1000< Table Z-1-A): Particulates not otherwise regulated.

**State Regulations:** Check your states regulations that may specifically list copy machine toner.

**SECTION 16 OTHER INFORMATION**

Prepared By: N/A  
Revision Notes: N/A  
Additional Hazard Rating System: N/A

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