

MATERIAL SAFETY DATA SHEET

DATE PREPARED: August 15, 2014

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

MANUFACTURER: Clover Technologies Group
4200 Columbus St.
Ottawa, IL 61350
Tel: 815-431-8100

2. COMPOSITION / INFORMATION INGREDIENTS

Ingredient	CAS Number	Percentage by Weight
Styrene Acrylate	292629-36-8	82%
Silica	7631-86-9	0%
Carbon Black	1333-86-4	5%
Wax	9002-88-4	13%
		100%

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Odorless black fine powder.

Not highly flammable, but when suspended in air, is combustible as with most organic powders.

CARCINOGENIC EFFECTS

Carbon black is reclassified as a group 2B by IARC, but inhalation test using a typical toner showed no association between toner exposure and animal tumors.

POTENTIAL HEALTH EFFECTS

EYES: Solid or dusts may cause irritation or corneal injury.
SKIN CONTACT: Essentially nonirritating to skin.
SKIN ABSORPTION: Skin absorption is unlikely due to physical properties.
INGESTION: Oral toxicity is believed to be low.
INHALATION: Minimal irritation to respiratory track may occur.

FIRE AND EXPLOSION

SENSITIVITY TO MECHANICAL IMPACT: None
SENSITIVITY TO STATIC CHARGE: None

4. FIRST AID MEASURES

EYES: Flush eyes immediately with plenty of water for at least 15 minutes. Get medical attention.
SKIN: Flush with plenty of water. Use soap.
INGESTION: No adverse effects anticipated by this route of exposure incidental to proper handling.
INHALATION: Remove to fresh air. If effects occur, consult medical personnel.

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5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:	Not highly flammable.
FLASH POINT:	No data available.
FLAMMABLE LIMITS:	LEL: No data available. UEL: No data available.
EXTINGUISHING MEDIA :	Water fog, foam, CO ₂ , dry chemical.
FIRE-FIGHTING EQUIP:	Wear full bunker gear including a positive pressure self-contained breathing apparatus in case of burning in large quantities.

6. ACCIDENTAL REALEASE MEASURES

Minimize the release of particulates.
Wear personal protective equipment.
Do not use vacuum cleaner.
After by lightly spraying with water to prevent development of dust, spills should be swept up or wiped up. Then residuals can be removed with soap and water. Preferred to use the material in a place, covering up the floor and surrounding matters with suitable sheets such as paper, in a case of being not fit to scrub the floor with water. These used sheets should be wrapped up in spills and transfer into a suitable container for disposal.
Garments may be washed or dry cleaned, after removal of loose toner.

7. HANDLING AND STORAGE

Avoid creating dust. Clean up all spills promptly.
Inhalation and contact with skin or eyes should be avoided.
Provide general ventilation. Good general ventilation should be sufficient for most conditions.
Store in a cool, well ventilated place away from flames and spark-producing equipment.
May toners be preferred to use or handle at the suitable place without concerning about smudges to which are given rise by releasing them.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

OSHA PEL: TWA $5.0\text{mg}/\text{m}^3$ (Inert of Nuisance Dust: Respirable fraction)
 $15.0\text{ mg}/\text{m}^3$ (Inert of Nuisance Dust: Total dust)

ACGIH TLV: TWA (2005) $3.0\text{mg}/\text{m}^3$ (Particulates Not Otherwise Classified: Respirable Particle Mass)
 $10.0\text{ mg}/\text{m}^3$ (Particulates Not Otherwise Classified: Inhalable Particle Mass)

RESPIRATORY PROTECTION: For dusty atmospheres, use an approval dust respirator.
SKIN PROTECTION: No precautions should be needed under normal use.
EYE PROTECTION: No precautions should be needed under normal use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black Powder
ODOR: Odorless
BOILING POINT: N.A. (not applicable)
VAP PRESS: N.A.
VAP DENSITY: N.A.
SOLUBILITY IN WATER: Negligible
SP. GRAVITY: ca. 1.30 – 1.40
MELTING POINT: N.A.
PH: N.A.
% VOLATILE: N.A.

10. STABILITY AND REACTIVITY

STABILITY: This is a stable product.
INCOMPATIBILITY: (SPECIAL MATERIALS TO AVOID)
Oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, hydrocarbons (by high heat and fire).
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

MUTAGENIC EFFECTS: Negative in the Ames test.
(Estimated from the data of constituent components.)

CARCINOGENIC EFFECTS:

In 1996, the 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 developer of lung tumors in rat receiving chronic inhalation exposures to free carbon black at level that induce particle overload of the lung.

Studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

CHRONIC EFFECTS:

In a study in rats (H. Muhle) by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary changes was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

12. ECOLOGICAL INFORMATION

None.

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13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste must be disposed of in accordance with country and local environmental control regulations.

14. TRANSPORT INFORMATION

TRANSPORT INFORMATION: This is not a hazardous product.
UN NO.: None allocated.

15. REGULATORY INFORMATION

TSCA: All chemical substances in this product comply with all applicable rules or orders under TSCA.

EU: Especially none.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 1 Reactivity = 0

REFERENCES:

IARC (1996) Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.65, Printing Process and Printing Inks, Carbon Black and some Nitro Compounds, Lyon, pp.149-261.

H. Muhle, B. Bellmann, O. Creutzenbert, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. Mackenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp280-299.

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Silica	7631-86-9	1%
Pigment	26850-47-5	4%
Wax	9002-88-4	13%
		100%

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Odorless black fine powder.

Not highly flammable, but when suspended in air, is combustible as with most organic powders.

CARCINOGENIC EFFECTS

Carbon black and Titanium dioxide are reclassified as a group 2B by IARC, but inhalation test using a typical toner showed no association between toner exposure and animal tumors.

POTENTIAL HEALTH EFFECTS

EYES: Solid or dusts may cause irritation or corneal injury.

SKIN CONTACT: Essentially nonirritating to skin.

SKIN ABSORPTION: Skin absorption is unlikely due to physical properties.

INGESTION: Oral toxicity is believed to be low.

INHALATION: Minimal irritation to respiratory track may occur.

FIRE AND EXPLOSION

SENSITIVITY TO MECHANICAL IMPACT: None

SENSITIVITY TO STATIC CHARGE: None

4. FIRST AID MEASURES

EYES: Flush eyes immediately with plenty of water for at least 15 minutes. Get medical attention.

SKIN: Flush with plenty of water. Use soap.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper handling.

INHALATION: Remove to fresh air. If effects occur, consult medical personnel.

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5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:	Not highly flammable.
FLASH POINT:	No data available.
FLAMMABLE LIMITS:	LEL: No data available. UEL: No data available.
EXTINGUISHING MEDIA :	Water fog, foam, CO ₂ , dry chemical.
FIRE-FIGHTING EQUIP:	Wear full bunker gear including a positive pressure self-contained breathing apparatus in case of burning in large quantities.

6. ACCIDENTAL REALEASE MEASURES

Minimize the release of particulates.
Wear personal protective equipment.
Do not use vacuum cleaner.
After by lightly spraying with water to prevent development of dust, spills should be swept up or wiped up. Then residuals can be removed with soap and water. Preferred to use the material in a place, covering up the floor and surrounding matters with suitable sheets such as paper, in a case of being not fit to scrub the floor with water. These used sheets should be wrapped up in spills and transfer into a suitable container for disposal.
Garments may be washed or dry cleaned, after removal of loose toner.

7. HANDLING AND STORAGE

Avoid creating dust. Clean up all spills promptly.
Inhalation and contact with skin or eyes should be avoided.
Provide general ventilation. Good general ventilation should be sufficient for most conditions.
Store in a cool, well ventilated place away from flames and spark-producing equipment.
May toners be preferred to use or handle at the suitable place without concerning about smudges to which are given rise by releasing them.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

OSHA PEL: TWA 5.0mg/m³ (Inert of Nuisance Dust: Respirable fraction)
15.0 mg/m³ (Inert of Nuisance Dust: Total dust)

ACGIH TLV: TWA (2005) 3.0mg/m³ (Particulates Not Otherwise Classified: Respirable Particle Mass)
10.0 mg/m³ (Particulates Not Otherwise Classified: Inhalable Particle Mass)

RESPIRATORY PROTECTION: For dusty atmospheres, use an approval dust respirator.
SKIN PROTECTION: No precautions should be needed under normal use.
EYE PROTECTION: No precautions should be needed under normal use.

MATERIAL SAFETY DATA SHEET

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black, Cyan, Magenta, or Yellow Powder
ODOR: Odorless
BOILING POINT: N.A. (not applicable)
VAP PRESS: N.A.
VAP DENSITY: N.A.
SOLUBILITY IN WATER: Negligible
SP. GRAVITY: ca. 1.30 – 1.40
MELTING POINT: N.A.
PH: N.A.
% VOLATILE: N.A.

10. STABILITY AND REACTIVITY

STABILITY: This is a stable product.
INCOMPATIBILITY: (SPECIAL MATERIALS TO AVOID)
Oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, hydrocarbons (by high heat and fire).
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

MUTAGENIC EFFECTS: Negative in the Ames test.
(Estimated from the data of constituent components.)

CARCINOGENIC EFFECTS:

In 1996, the 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 developer of lung tumors in rat receiving chronic inhalation exposures to free carbon black at level that induce particle overload of the lung.

Studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

CHRONIC EFFECTS:

In a study in rats (H. Muhle) by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary changes was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

12. ECOLOGICAL INFORMATION

None.

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13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste must be disposed of in accordance with country and local environmental control regulations.

14. TRANSPORT INFORMATION

TRANSPORT INFORMATION: This is not a hazardous product.
UN NO.: None allocated.

15. REGULATORY INFORMATION

TSCA: All chemical substances in this product comply with all applicable rules or orders under TSCA.
FERRITE: SARA Title III Section 313 (Copper compounds, Zinc compounds).
EU: Especially none.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 1 Reactivity = 0

REFERENCES:

IARC (1996) Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.65, Printing Process and Printing Inks, Carbon Black and some Nitro Compounds, Lyon, pp.149-261.

H. Muhle, B. Bellmann, O. Creutzenbert, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. Mackenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp280-299.

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Silica	7631-86-9	1%
Pigment	3648-36-0	4%
Wax	9002-88-4	13%
		100%

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Odorless black fine powder.

Not highly flammable, but when suspended in air, is combustible as with most organic powders.

CARCINOGENIC EFFECTS

Carbon black and Titanium dioxide are reclassified as a group 2B by IARC, but inhalation test using a typical toner showed no association between toner exposure and animal tumors.

POTENTIAL HEALTH EFFECTS

EYES: Solid or dusts may cause irritation or corneal injury.
SKIN CONTACT: Essentially nonirritating to skin.
SKIN ABSORPTION: Skin absorption is unlikely due to physical properties.
INGESTION: Oral toxicity is believed to be low.
INHALATION: Minimal irritation to respiratory track may occur.

FIRE AND EXPLOSION

SENSITIVITY TO MECHANICAL IMPACT: None
SENSITIVITY TO STATIC CHARGE: None

4. FIRST AID MEASURES

EYES: Flush eyes immediately with plenty of water for at least 15 minutes. Get medical attention.
SKIN: Flush with plenty of water. Use soap.
INGESTION: No adverse effects anticipated by this route of exposure incidental to proper handling.
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5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:	Not highly flammable.
FLASH POINT:	No data available.
FLAMMABLE LIMITS:	LEL: No data available. UEL: No data available.
EXTINGUISHING MEDIA :	Water fog, foam, CO ₂ , dry chemical.
FIRE-FIGHTING EQUIP:	Wear full bunker gear including a positive pressure self-contained breathing apparatus in case of burning in large quantities.

6. ACCIDENTAL REALEASE MEASURES

Minimize the release of particulates.
Wear personal protective equipment.
Do not use vacuum cleaner.
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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

OSHA PEL: TWA 5.0mg/m³ (Inert of Nuisance Dust: Respirable fraction)
15.0 mg/m³ (Inert of Nuisance Dust: Total dust)

ACGIH TLV: TWA (2005) 3.0mg/m³ (Particulates Not Otherwise Classified: Respirable Particle Mass)
10.0 mg/m³ (Particulates Not Otherwise Classified: Inhalable Particle Mass)

RESPIRATORY PROTECTION: For dusty atmospheres, use an approval dust respirator.
SKIN PROTECTION: No precautions should be needed under normal use.
EYE PROTECTION: No precautions should be needed under normal use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black, Cyan, Magenta, or Yellow Powder
ODOR: Odorless
BOILING POINT: N.A. (not applicable)
VAP PRESS: N.A.
VAP DENSITY: N.A.
SOLUBILITY IN WATER: Negligible
SP. GRAVITY: ca. 1.30 – 1.40
MELTING POINT: N.A.
PH: N.A.
% VOLATILE: N.A.

10. STABILITY AND REACTIVITY

STABILITY: This is a stable product.
INCOMPATIBILITY: (SPECIAL MATERIALS TO AVOID)
Oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, hydrocarbons (by high heat and fire).
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

MUTAGENIC EFFECTS: Negative in the Ames test.
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14. TRANSPORT INFORMATION

TRANSPORT INFORMATION: This is not a hazardous product.
UN NO.: None allocated.

15. REGULATORY INFORMATION

TSCA: All chemical substances in this product comply with all applicable rules or orders under TSCA.
FERRITE: SARA Title III Section 313 (Copper compounds, Zinc compounds).
EU: Especially none.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 1 Reactivity = 0

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PH: N.A.
% VOLATILE: N.A.

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Oxidizing materials.
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CHRONIC EFFECTS:

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12. ECOLOGICAL INFORMATION

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WASTE DISPOSAL METHOD: Waste must be disposed of in accordance with country and local environmental control regulations.

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EU: Especially none.

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