

SAFETY DATA SHEET
Section 1: Chemical Product and Company Information
1.1 Product Identifier

Product Name: Direct Thermal Products, All Grades
 Restrictions on Use: None

05214
 05213

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
 Product Use: Paper for consumer and professional use.

09661
 06993

1.3 Details of the Supplier of the Substance or Mixture

Manufacturer: Appvion, Inc.
 825 East Wisconsin Avenue
 Appleton, WI 54911 USA
 Information Phone: 920-991-8875

06994
 06370
 06360

1.4 Emergency Telephone Number

800-424-9300 (Chemtrec) 1-703-527-3887 for International Calls

05233

Email: ehsps@appvion.com

SDS Date of Preparation/Revision: April 7, 2016

05247
 00012

Section 2: Hazards Identification
2.1 Classification of the Substance or Mixture

EU CLP Classification (EC No 1272/2008): Not classified as hazardous

US OSHA GHS Classification (29CFR1910.1200): Combustible Dust if processed

Thermal Paper is considered an "Article" as the GHS uses that term. The hazardous constituents are incorporated into the paper and under normal use conditions are not released and do not create an exposure to hazardous chemicals.

2.2 Label Elements

EU Labeling according to the CLP: None required

US Labeling according to Hazcom 2012: Warning: May form combustible dust concentrations in air if processed.

2.3 Other Hazards: Inhalation of dust that may be generated from cutting or other processing of product may cause mucous membrane and upper respiratory irritation. Dust may cause mild eye irritation. High concentrations of any organic dust, including paper dust, in air may present a dust explosion hazard. Refer to Section 5 and 11 for additional information.

Section 3: Composition/Information on Ingredients
3.2 Mixtures

| Component | CAS Number/ EINECS Number. | Amount | EU Classification Reg. (EC) No 1272/2008 |
|----------------------------|-------------------------------|--------|---|
| Basestock Paper or Polymer | Mixture | 70-95% | Not classified as hazardous |
| Kaolin | 1332-58-7 / 310-194-1 | 0-15% | Not classified as hazardous |
| Calcium Carbonate | 1317-65-3 / 215-279-6 | 0-5% | Not classified as hazardous |
| Titanium Dioxide | 13463-67-7 / 236-675-5 | <1% | Not classified as hazardous (EU Classification) Carc. Cat 2 (H351) (US) |



| | | | |
|--|--|--|-----------------|
| | | | Classification) |
|--|--|--|-----------------|

Refer to Section 16 for Full Text of GHS Classes and H Statements
The exact percentage is a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures

First Aid

Eyes: Flush eyes thoroughly with water. If irritation persists, seek medical attention.

Skin: No first aid should be needed.

Ingestion: If large amount is swallowed, get medical advice.

Inhalation: Move person to fresh air. Seek medical attention if irritation or other symptoms persist.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: If dust is generated, it may cause mild eye and respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention should not be required.

Section 5. Fire Fighting Measures

5.1 Extinguishing Media: Water is the most effective agent for fighting fires involving paper products. Not incompatible with any extinguishing agent.

5.2 Special Hazards Arising from the Substance or Mixture: This product is an ordinary combustible and will burn under fire conditions. High concentrations of any suspended organic dust, including dust that may be generated from processing this product, may present a dust explosion hazard. Combustion products include carbon dioxide, carbon monoxide and smoke..

5.3 Advice for Fire-Fighters: Wear positive pressure self-contained breathing apparatus and full protective clothing

Section 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Eliminate flames and other sources of ignition. Avoid creating dust during clean-up process.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spilled materials for use or disposal. Nonsparking tools should be used. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentrations. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Reference to Other Sections:

Refer to Section 13 for disposal information and Section 8 for protective equipment.



Section 7. Handling and Storage

7.1 Precautions for Safe Handling:

Handling: This product is not hazardous unless processed in a manner that generates dust. Minimize the generation and accumulation of dust. Keep product away from heat, flames and other sources of ignition. Potential dust explosion hazard - use good housekeeping to prevent accumulation of dust in the work area. Dry powders can build static electricity charges when subjected to friction of transfer and in mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Conditions for Safe Storage, Including any Incompatibilities: Store at room temperature in cool, dry, well ventilated place away from excessive heat and incompatible materials such as strong oxidizers.

7.3 Specific end use(s):

Industrial uses: None identified
Professional uses: None identified

Section 8. Exposure Controls / Personal Protection

Control Parameters:

| Chemical Name | US OEL | EU IOEL | UK OEL | DFG MAK | Biological Limit Value |
|-------------------|--|------------------|--|-------------------------------------|------------------------|
| Kaolin | 5 mg/m ³ TWA OSHA PEL (respirable dust) 15 mg/m ³ TWA OSHA (total dust) 2 mg/m ³ TWA (respirable dust) ACGIH TLV | None Established | 2 mg/m ³ TWA (respirable) | None Established | None Established |
| Calcium Carbonate | 15 mg/m ³ PEL-TWA (total dust) 5 mg/m ³ PEL-TWA (respirable dust) | None Established | 4 mg/m ³ TWA (respirable); 10 mg/m ³ TWA (inhalable) | 4 mg/m ³ TWA (inhalable) | None Established |
| Titanium Dioxide | 15 mg/m ³ TWA OSHA PEL 10 mg/m ³ TWA ACGIH TLV | None Established | 4 mg/m ³ (respirable), 10 mg/m ³ (inhalable) TWA | None Established | None Established |

DNEL: None established
PNEC: None Established

8.2 Exposure Controls:

Recommended Monitoring Procedures: Collection on filters with gravimetric analysis.

Appropriate Engineering Controls: No special ventilation is required for normal handling and use. Provide appropriate exhaust ventilation at places where dust is formed if this product is further processed. Use explosion-proof equipment where required. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal Protective Measurers

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits.



If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134 and ANSI Z88.2 in the United States or other applicable regulations and standards and good Industrial Hygiene practice.

Eye Protection: Follow facility requirements.

Skin Protection: None required.

Other protection: None required.

Section 9. Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties

Appearance and Odor: Solid paper in roll or sheet form, faint odor.

| | | | |
|-----------------------------------|---|----------------------------------|----------------|
| Solubility in Water: | Insoluble | Boiling Point: | Not applicable |
| Odor Threshold: | Not determined | Partition Coefficient: | Not applicable |
| pH: | Not applicable | Melting Point: | Not applicable |
| Specific Gravity: | Varies | Vapor Density: | Not applicable |
| Evaporation Rate: | Not applicable | Vapor Pressure: | Not applicable |
| Flammability(solid/gas): | Not classified as a flammable solid | Flash Point: | None |
| Explosive Limits: | Not applicable | Autoignition Temperature: | Not available |
| Decomposition Temperature: | Not determined | Viscosity: | Not applicable |
| Explosive Properties: | Fine dust suspended in air may be explosive | Oxidizing Properties: | None |

9.2 Other Information: None

Section 10. Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.

10.4 Conditions to Avoid: Avoid excessive heat and flames.

10.5 Incompatible Materials: Avoid strong oxidizers.

10.6 Hazardous Decomposition Products: Products of combustion include carbon dioxide, carbon monoxide and smoke.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Hazards

Inhalation: Inhalation of dust that may be generated from cutting or other processing of product may cause mucous membrane and upper respiratory irritation. Prolonged inhalation of respirable kaolin above the occupational exposure limit may cause lung changes.

Skin Contact: None expected.



Eye Contact: None expected. Dust particles may cause abrasive irritation.

Ingestion: Not expected to be acutely toxic.

Acute Toxicity Values: This product is not expected to be acutely toxic based on an evaluation of the component materials

Skin corrosion/irritation: None of the relevant components are skin irritants.

Eye damage/ irritation: Product is not expected to be irritating to eyes.

Respiratory Irritation: None of the components are respiratory irritants.

Skin Sensitization: None of the components are skin sensitizers.

Respiratory Sensitization: None of the components are respiratory sensitizers.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: Titanium dioxide is listed by IARC as a category 2B carcinogen. The titanium dioxide is bound in the paper matrix and no exposure occurs during normal use. None of the other components present at 0.1% or greater is listed as a potential carcinogen by IARC, NTP, OSHA or the EU CLP regulation.

Developmental / Reproductive Toxicity: No specific data is available; however, none of the components are classified as reproductive hazards.

Specific Target Organ Toxicity (Single Exposure): No adverse effects expected based on available data.

Specific Target Organ Toxicity (Repeated Exposure): No specific data is available. Prolonged inhalation of respirable dust may cause effects on the lung.

Aspiration Toxicity: Components are not aspiration hazards.

Section 12. Ecological Information

12.1 Toxicity: No data available. This product is not expected to be toxic to aquatic organisms.

12.2 Persistence and degradability: No data is available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: Components do not meet the criteria for classification as PBT or vPvB.

12.6 Other Adverse Effects: None known.

Section 13. Disposal Considerations

13.1 Waste Treatment Methods:

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.



Section 14. Transport Information

| | 14.1 UN Number | 14.2 UN Proper Shipping Name | 14.3 Hazard Class(s) | 14.4 Packing Group | 14.5 Environmental Hazards |
|---------------------|----------------|------------------------------|----------------------|--------------------|----------------------------|
| US DOT | None | Not Regulated | None | None | No |
| Canadian TDG | None | Not Regulated | None | None | No |
| EU ADR/RID | None | Not Regulated | None | None | No |
| IMDG | None | Not Regulated | None | None | No |
| IATA/ICAO | None | Not Regulated | None | None | No |

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable – shipped only in packaged form.

Section 15. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture.

INTERNATIONAL INVENTORIES

TSCA Status: These products are articles and not subject to TSCA.

United States Regulations

EPA SARA 302: No regulated components.

EPA SARA Regulations:

SARA 311/312 Hazard Categories:

- N – Fire Hazard
- N – Sudden Release of Pressure
- N – Reactivity
- N – Acute Health
- N – Chronic Health

SARA 313: This contains the following chemicals above de minimus concentrations subject to the notification or reporting requirements of SARA 313: None

CERCLA Section 103: This product is not subject to CERCLA release reporting. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

RCRA Status: This product, as sold, is not regulated under RCRA as a hazardous waste.

California Proposition 65: This product may contain the following chemicals known to the State of California to cause cancer: titanium dioxide and crystalline silica. These chemicals are bound in a paper matrix and are not respirable, therefore, no warning is required.

International Regulations:

Canadian Environmental Protection Act: This product is a manufactured article and not subject to chemical notification requirements.



Europe:

REACH: This product is a manufactured article and not subject to chemical notification requirements.

Water Hazard Class: nwg

Chemical Safety Assessment: None required

Other EU Regulations: This product is classified and labeled in accordance with CLP Regulation. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH)

Section 16. Other Information

NFPA RATING (NFPA 704) FIRE: 1 HEALTH: 0 INSTABILITY: 0

HMIS RATING FIRE: 1 HEALTH: 0 REACTIVITY: 0

GHS Hazard Classes and Statements from Section 3

Carc. Cat 2 – Carcinogen Category 2

H351 Suspected of causing cancer.

Effective Date: 04/07/2016

Supersedes Date: 10/03/2015

SDS Number: API-CEHS-31

This SDS conforms to Regulation (EU) No. 1907/2006 and 453/2010, US OSHA Hazcom 2012 (29 CFR1910.1200) and Canada WHMIS 2015.

This information is furnished without warranty, expressed or implied. It is accurate to the best knowledge of Appvion, Inc. The data on this sheet is related only to the specific product designated herein. Appvion, Inc. assumes no legal responsibility for the use or reliance upon these data.



OSHA GHS Label

Direct Thermal Prpducts, All Grades

Warning

May form combustible dust concentrations in air.
Prevent accumulation of dust in the workplace. Keep dust away from
ignition sources.

Appvion, Inc.
825 East Wisconsin Avenue
Appleton, WI 54911 USA
Information Phone: 920-991-8875
Emergency Phone: 800-424-9300 (Chemtrec) (outside the US 1-703-527-3887)
SDS API-CEHS-31

Rev 04/07/2016