DFDA-5471 NT EXP1

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SAFETY DATA SHEET

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Section 1. Identification		
GHS product identifier Chemical name CAS number Other means of identification Product type	::	DFDA-5471 NT EXP1 Mixture Mixture CC10256007 solid
<u>Relevant identified uses of the subs</u> Product use	tance :	e or mixture and uses advised against Industrial applications.
Supplier's details	:	AVIENT CORPORATION 33587 Walker Road, Avon Lake, OH 44012
Emergency telephone number (with hours of operation)	:	1 (440) 930-1000 or 1 (844) 4AVIENT CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status	:	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Classification of the substance or mixture	:	Not classified.
GHS label elements		
Signal word Hazard statements	:	No signal word. No known significant effects or critical hazards.

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Precautionary statements

	:	Not applicable.
Prevention	:	Not applicable.
Response	:	Not applicable.
Storage	:	Not applicable.
Disposal	:	Not applicable.
Supplemental label elements	:	None known.
Hazards not otherwise classified	:	None known.
		Not available.

Section 3. Composition/information on ingredients

:

:

:

Substance/mixture
Chemical name
Other means of identification

Mixture Mixture CC10256007

CAS number/other identifiers

Ingredient name	%	CAS number
Antimony trioxide	>= 25 - <= 50	1309-64-4
Zinc oxide	>= 5 - <= 10	1314-13-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	Wash out mouth with water. Remove victim to fresh air and keep at

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rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.
Over-exposure signs/symptoms		
Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	No specific data.
Indication of immediate medical attention and special treatment needed, if necessary		
Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media	:	In case of fire, use water spray (fog), foam, dry chemical or $\rm CO_2$. None known.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds

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		metal oxide/oxides
Special protective actions for fire- fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self- contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through
For emergency responders	:	spilled material. Put on appropriate personal protective equipment. If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment	t ar	nd cleaning up
Small spill :	:	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill :	:	Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational	:	Eating, drinking and smoking should be prohibited in areas where this
hygiene		material is handled, stored and processed. Workers should wash hands
		and face before eating, drinking and smoking. Remove contaminated

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clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Antimony trioxide	NIOSH REL (1994-06-01)
	TWA 0.5 mg/m3
	OSHA PEL 1989 (1989-03-01)
	TWA 0.5 mg/m3 (as antimony)
	OSHA PEL (1993-06-30)
	TWA 0.5 mg/m3 (as antimony)
	ACGIH TLV (2021-01-07)
	TWA 0.02 mg/m3 Form: Inhalable fraction
Zinc oxide	OSHA PEL 1989 (1989-03-01)
	TWA 5 mg/m3 Form: Fume
	STEL 10 mg/m3 Form: Fume
	TWA 10 mg/m3 Form: Total dust
	TWA 5 mg/m3 Form: Respirable fraction
	OSHA PEL (1993-06-30)
	TWA 15 mg/m3 Form: Total dust
	TWA 5 mg/m3 Form: Respirable fraction
	NIOSH REL (1994-06-01)
	TWA 5 mg/m3 Form: Dust and fumes
	STEL 10 mg/m3 Form: Fume
	CEIL 15 mg/m3 Form: Dust
	ACGIH TLV (2003-01-01)
	TWA 2 mg/m3 Form: Respirable fraction
	STEL 10 mg/m3 Form: Respirable fraction
	OSHA PEL (1993-06-30)
	TWA 5 mg/m3 Form: Fume

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Appropriate engineering controls Environmental exposure controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures		
Hygiene measures Eye/face protection	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to
		liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection		
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

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Physical state	:	solid [Granular solid.]
Color	:	NO PIGMENT
Odor	:	Faint odor.
Odor threshold	:	Not available.
рН	:	Not available.
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Burning time	:	Not available.
Burning rate	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive	:	Lower: Not available.
(flammable) limits		Upper: Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Solubility in water	:	insoluble in water.
Partition coefficient: n-	:	Not available.
octanol/water		
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Dynamic: Not available.
		Kinematic: Not available.
Aerosol product		
Heat of combustion	:	Not available.
Ignition distance	:	Not available.
Enclosed space ignition - Time equivalent	:	Not available.
Enclosed space ignition -	:	Not available.
Deflagration density		
Flame height	:	Not available.
Flame duration	:	Not available.

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

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Conditions to avoid	:	Keep away from extreme heat and oxidizing agents.
Incompatible materials	:	Keep away from strong acids.
		Oxidizer.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Antimony oxide				
	LD50 Oral	Rat	34,000 mg/kg	-

Conclusion/Summary

: Mixture.Not fully tested.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Antimony oxide	Eyes - Mild irritant	Rabbit	-		-
Zinc oxide (ZnO)	Eyes - Mild irritant	Rabbit	-	24 hrs	-
	Skin - Mild irritant	Rabbit	-	24 hrs	-

Conclusion/Summary	
Skin	: Mixture.Not fully tested.
Eyes	: Mixture.Not fully tested.
Respiratory	: Mixture.Not fully tested.
Sensitization	
Conclusion/Summary	
Skin	: Mixture.Not fully tested.
Respiratory	: Mixture.Not fully tested.
Mutagenicity	
Conclusion/Summary	: Mixture.Not fully tested.
Carcinogenicity	
Conclusion/Summary	: Mixture.Not fully tested.
Classification	

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Potential immediate effects : Not available. Potential delayed effects : Not available. Long term exposure	Delayed and immediate effects	s and also chr	onic effects from	short and long term exposure
Potential immediate effects : Not available. Potential delayed effects : Not available. Long term exposure				
Potential delayed effects : Not available. Long term exposure	Snort term exposure			
Potential delayed effects : Not available. Long term exposure : Not available. Potential immediate effects : Not available.	Potential immediate effects	: N	ot available.	
Potential immediate effects : Not available.				
Potential immediate effects : Not available.	- -			
	Long term exposure			
9/16	Potential immediate effects	: N	ot available.	
			9/16	

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Potential delayed effects	:	Not available.
Potential chronic health effects		
Conclusion/Summary	:	Mixture.Not fully tested.
General Carcinogenicity Mutagenicity Teratogenicity Developmental effects Fertility effects	:	No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
DFDA-5471 NT EXP1	34,000 mg/kg	N/A	N/A	N/A	N/A
Antimony oxide	34,000 mg/kg	N/A	N/A	N/A	N/A

Other information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Section 12. Ecological information

:

Toxicity

Product/ingredient name	Result	Species	Exposure
Antimony oxide			
	Acute LC50 > 530 Mg/l Fresh water	Fish - Lepomis macrochirus	96 h
	Acute EC50 560 Mg/l Fresh water	Crustaceans - Cypris subglobosa	48 h
	Acute EC50 3.01 Mg/l Fresh water	Daphnia - Daphnia magna	48 h
Zinc oxide (ZnO)	·	•	•
	Acute LC50 1.1 Mg/l Fresh	Fish - Oncorhynchus mykiss	96 h
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	water			
	Acute LC50 0.098 Mg/l Fresh	Daphnia - Daphnia magna	48 h	
	water			
	Acute IC50 1.85 Mg/l Marine	Algae - Skeletonema costatum	96 h	
	water			
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Remarks - Acute - Aquatic	Chemicals are not readily availabl	e as they are bound within the poly	mer matrix.	
invertebrates.:				
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.			
Persistence and degradability				
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.			
Conclusion/Summary	: Chemicals are not read polymer matrix.	lily available as they are bound wit	hin the	

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Zinc oxide (ZnO)	-	28,960.00	high

Mobility in soil

Soil/water partition coefficient (KOC)	:	Not available.
Other adverse effects	:	No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods	:	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered
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when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S.DOT 49CFR Ground/Air/Water	:	Not regulated for transportation.
International Air ICAO/IATA	:	Not classified as dangerous goods under transport regulations.
International Water IMO/IMDG	:	Not classified as dangerous goods under transport regulations.

Section 15. Regulatory information

U.S. Federal regulations	 United States - TSCA 12(b) - Chemical export notification: None of the components are listed. United States - TSCA 4(a) - Final Test Rules: Not listed United States - TSCA 4(a) - ITC Priority list: Not listed United States - TSCA 4(a) - Proposed test rules: Not listed United States - TSCA 4(f) - Priority risk review: Not listed United States - TSCA 4(f) - Priority risk review: Not listed United States - TSCA 5(a)2 - Final significant new use rules: Listed 1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene] United States - TSCA 5(e) - Substances consent order: Listed 1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene] United States - TSCA 5(e) - Substances consent order: Listed 1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]
	United States - TSCA 6 - Proposed risk management: Listed Lead
	United States - TSCA 8(a) - Chemical risk rules: Not listed United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined
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		United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Listed Antimony trioxide Zinc oxide Arsenic Lead Lead Oxide (PbO) Cadmium oxide
		United States - EPA Clean water act (CWA) section 311 - Hazardous substances: Listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Not listed United States - Department of commerce - Precursor chemical: Not listed
Clean Air Act Section 112(b)	:	Listed
Hazardous Air Pollutants (HAPs) Clean Air Act Section 602 Class I Substances	:	Not listed
Clean Air Act Section 602 Class II	:	Not listed
Substances DEA List I Chemicals (Precursor Chemicals)	:	Not listed
DEA List II Chemicals (Essential	:	Not listed

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Chemical Name	CAS-No.	RQ for component	
Antimony trioxide	1309-64-4	1,000 lb(s)	
		454 kg	
Arsenic	7440-38-2	1 lb(s) 0.454 kg	

SARA 311/312

Chemicals)

Classification

Not applicable.

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Composition/information on ingredients

No products were found.

Name	%	Classification
Antimony oxide	>= 25 - <= 50	EYE IRRITATION - Category 2B CARCINOGENICITY - Category 2
Zinc oxide (ZnO)	>= 5 - <= 10	EYE IRRITATION - Category 2B

Form R - Reporting requirements

Product name	CAS number	%
Antimony trioxide	1309-64-4	>= 25 - <= 50
Zinc oxide	1314-13-2	>= 5 - <= 10
Lead	7439-92-1	> 0 - <= 0.1
Lead Oxide (PbO)	1317-36-8	> 0 - <= 0.1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Not applicable.

State regulations		
Massachusetts	:	None of the components are listed.
New York	:	The following components are listed: Antimony trioxide
New Jersey	:	The following components are listed: Antimony trioxide Zinc oxide
Pennsylvania	:	The following components are listed: Antimony trioxide

Zinc oxide

California Prop. 65

WARNING: This product can expose you to Antimony trioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Antimony trioxide	-	-

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United States inventory (TSCA 8b)	:	All components are active or exempted.
Canada inventory	:	Not determined.
International regulations		
<u>Inventory list</u>		
Australia	:	Not determined.
Canada	:	Not determined.
China	:	Not determined.
Europe inventory	:	Not determined.
Japan	:	Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	Not determined.
Turkey	:	Not determined.
United States	:	All components are active or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	0
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual. History

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:	1.1
:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor
	:

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GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = International Air Transport Association IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations Not available.

References

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.

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