



MATERIAL SAFETY DATA SHEET

**Section 1 -- PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NUMBER

DI-DTMA

HMIS CODES

Health 2  
Flammability 2  
Reactivity 1

PRODUCT NAME

2.1 VOC Direct to Metal Activator

MANUFACTURER'S NAME

Distinctive Image  
Dutch Square Industrial Park  
6423 Amsterdam Way  
Wilmington, NC 28405

EMERGENCY TELEPHONE NO.

CHEMTREC:  
800-424-9300 (Within USA)  
001-703-527-3887 (Outside the USA)  
INFORMATION TELEPHONE NO.  
(313) 531-1111

**Section 2 -- COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS**

Ingredient  
% by weight

CAS Number

Vapor Pressure

1, 6-Hexamethylene Diisocyanate  
0.1 - 1%

822-06-0

.05

ACGIH TLV 0.005  
ACGIH STEL N/E  
OSHA PEL N/E  
OSHA STEL N/E  
NIOSH REL: .005  
NIOSH C: .020

Hexamethylene Diisocyanate

20 - 50%

28182-81-2

N/A

ACGIH TLV N/E  
ACGIH STEL N/E  
OSHA PEL N/E  
OSHA STEL N/E

parachlorobenzotriflouride

50 - 100%

98-56-6

7.62

ACGIH TLV N/E  
ACGIH STEL N/E  
OSHA PEL N/E

### Section 3 -- HAZARDS IDENTIFICATION

#### ROUTES OF EXPOSURE:

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

#### EFFECTS OF OVEREXPOSURE:

Irritation of eyes, skin and upper respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE:

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Redness and itching or burning sensation may indicate eye or excessive skin exposure.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

None generally recognized.

#### CANCER INFORMATION:

FOR COMPLETE DISCUSSION OF TOXICOLOGY DATA REFER TO SECTION 11.

### Section 4 -- FIRST AID MEASURES

#### If INHALED:

If affected, remove from exposure. Restore breathing. Keep warm and quiet.

#### If on SKIN:

Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

#### If in EYES:

Flush eyes with large amounts of water for 15 minutes. Get medical attention.

#### If SWALLOWED:

Do not induce vomiting. Get medical attention immediately.

### Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
109 F	0.9	10.5

#### EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

#### UNUSUAL FIRE AND EXPLOSION HAZARDS:

Containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

#### SPECIAL FIRE FIGHTING PROCEDURES:

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

### Section 6 -- ACCIDENTAL RELEASE MEASURES

#### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbent should be placed in this container.

### Section 7 -- HANDLING RELEASE MEASURES

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and other sources of ignition. Consult NFPA Code. Use approved bonding and grounding procedures. Do not expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

### Section 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

#### PRECAUTIONS TO BE TAKEN IN USE:

Use only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using. This coating may contain materials classified as nuisance particulates (listed "as Dust" in section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in section 2, the applicable limits for nuisance dust are ACGIII TLV 10 mg/m<sup>3</sup> (total dust), 3 mg/m<sup>3</sup> (respirable fraction), OSHA PEL 15 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (respirable fraction). Removal of old paint by sanding, scraping, or other means may generate dust or fumes that contain lead.

#### VENTILATION:

Local exhaust preferable. General exhaust acceptable if the exposure to materials in section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108, and complete an industrial hygiene study to analyze specific working conditions.

**RESPIRATORY PROTECTION:**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in section 2. When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES:**

None required for normal application of these products where minimal skin contact is expected. For prolonged repeated contact, wear chemical resistant gloves.

**EYE PROTECTION:**

Wear safety spectacles with unperforated side shields.

**OTHER PRECAUTIONS:**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

HEALTH	* 2
FLAMMABILITY	2
PHYSICAL HAZARD	1
PERSONAL PROTECTION	G

## Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	10.383 lb/gal	1245 g/l
SPECIFIC GRAVITY	1.250	
BOILING POINT	282 - 282 F	
139 - 139 C		
VOLATILES	70.0 % by wt	65.1 % by vol
EVAPORATION RATE	Same as ether	
VAPOR DENSITY	Heavier than air	
REGULATORY VOC	0.00 lb/gal	0 g/l
ACTUAL VOC	0.00 lb/gal	0 g/l

## Section 10 -- STABILITY AND REACTIVITY

**STABILITY:**

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

None Known.

INCOMPATIBILITY:

Avoid contact with strong alkalis, strong mineral acids, or strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon monoxide, carbon dioxide, oxides of sulfur, oxides of barium, lowers molecular weight polymer fractions.

HAZARDOUS POLYMERIZATION:

None Known.

**Section 11 -- TOXICOLOGICAL INFORMATION**

CAS No.	Ingredient Name
822-06-0	1, 6-Hexamethylene Diisocyanate

IARC Classification	Not Established
Inhalation, mouse:	LC50 = 30 mg/m <sup>3</sup> ;
Inhalation, rat:	LC50 = 124 mg/m <sup>3</sup> /4H;
Inhalation, rat:	LC50 = 462 mg/m <sup>3</sup> /4H;
Oral, mouse:	LD50 = 350 mg/kg;
Oral, rat:	LD50 = 710 uL/kg;
Skin, rabbit:	LD50 = 570 uL/kg;

28182-81-2	Hexamethylene Diisocyanate
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IARC Classification	Not Established
Acute oral toxicity:	
LD50: > 5,000 mg/kg (Rat)	

Acute inhalation toxicity:  
LC50: 390-453 mg/m<sup>3</sup>, 4 h (Rat, Male/Female)  
RD50: 20.8 mg/m<sup>3</sup>, 3 h

Acute dermal toxicity:  
LD50: > 5,000 mg/kg (rabbit)

Skin irritation:  
Rabbit, Draize, Slightly irritating

Eye irritation:  
Rabbit, Draize, Slightly irritating

Sensitization:  
Dermal: Sensitizer (Guinea pig, Maximization Test)  
Dermal: Non-sensitizer (Guinea pig, Buehler)

Inhalation: Non-sensitizer (Guinea pig)

Repeated dose toxicity:

3 wks., inhalation: NOAEL: 3.7 - 4.3 mg/m<sup>3</sup>, (Rat)

90 d, inhalation: NOAEL: 3.3 - 3.4 mg/m<sup>3</sup>, (Rat)

Irritation to lungs and nasal cavity.

Mutagenicity Genetic

Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

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98-56-6

parachlorobenzotrifluoride

IARC Classification      Not Established

Acute oral toxicity-

No data available

Acute oral toxicity- Components

p-Trifluoromethylphenyl chloride:

LD50: 13,000 mg/kg

Species: Rat

Acute inhalation toxicity-

No data available

Acute inhalation toxicity- Components

p-Trifluoromethylphenyl chloride:

LD50: 33 mg/l

Exposed time: 4 h

Species: Rat

Acute dermal toxicity-

No data available

Acute toxicity (other routes of administration)-

No data available

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### **IARC Reference**

#### **IARC Group 1: The agent is *carcinogenic to humans***

This category is used when there is *sufficient evidence of carcinogenicity* in humans. Exceptionally, an agent may be placed in this category when evidence of carcinogenicity in humans is less than *sufficient* but there is *sufficient evidence of carcinogenicity* in experimental animals and strong evidence in exposed humans that the agent acts through a relevant mechanism of carcinogenicity.

**IARC Group 2A: The agent is *probably carcinogenic to humans*.**

This category is used when there is *limited evidence of carcinogenicity* in humans and *sufficient evidence of carcinogenicity* in experimental animals. In some cases, an agent may be classified in this category when there is *inadequate evidence of carcinogenicity* in humans and *sufficient evidence of carcinogenicity* in experimental animals and strong evidence that the carcinogenesis is mediated by a mechanism that also operates in humans. Exceptionally, an agent may be classified in this category solely on the basis of *limited evidence of carcinogenicity* in humans. An agent may be assigned to this category if it clearly belongs, based on mechanistic considerations, to a class of agents for which one or more members have been classified in Group 1 or Group 2A.

**IARC Group 2B: The agent is *possibly carcinogenic to humans*.**

This category is used for agents for which there is *limited evidence of carcinogenicity* in humans and less than *sufficient evidence of carcinogenicity* in experimental animals. It may also be used when there is *inadequate evidence of carcinogenicity* in humans but there is *sufficient evidence of carcinogenicity* in experimental animals. In some instances, an agent for which there is *inadequate evidence of carcinogenicity* in humans and less than *sufficient evidence of carcinogenicity* in experimental animals together with supporting evidence from mechanistic and other relevant data may be placed in this group. An agent may be classified in this category solely on the basis of strong evidence from mechanistic and other relevant data.

**IARC Group 3: The agent is *not classifiable as to its carcinogenicity to humans*.**

This category is used most commonly for agents for which the evidence of carcinogenicity is *inadequate* in humans and *inadequate* or *limited* in experimental animals. Exceptionally, agents for which the evidence of carcinogenicity is *inadequate* in humans but *sufficient* in experimental animals may be placed in this category when there is strong evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans. Agents that do not fall into any other group are also placed in this category. An evaluation in Group 3 is not a determination of non-carcinogenicity or overall safety. It often means that further research is needed, especially when exposures are widespread or the cancer data are consistent with differing interpretations.

**IARC Group 4: The agent is *probably not carcinogenic to humans*.**

This category is used for agents for which there is *evidence suggesting lack of carcinogenicity* in humans and in experimental animals. In some instances, agents for which there is *inadequate evidence of carcinogenicity* in humans but *evidence suggesting lack of carcinogenicity* in experimental animals, consistently and strongly supported by a broad range of mechanistic and other relevant data, may be classified in this group.

**Section 12 -- ECOLOGICAL INFORMATION**

CAS No.            Ingredient Name

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822-06-0            1, 6-Hexamethylene Diisocyanate

Bacteria: Phytobacterium phosphoreum: EC50 = 15.7 mg/L; 5-30 min; Microtox test.  
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28182-81-2            Hexamethylene Diisocyanate

Biodegradation:

0 %, Exposure time: 28 Days, Not readily biodegradable.

Acute and Prolonged Toxicity to Fish:

LC50: > 100 mg/l (Zebra fish (*Brachydanio rerio*), 96 h)

Acute Toxicity to Aquatic Invertebrates:

EC50: > 100 mg/l (Water flea (*Daphnia magna*), 48 h)

Toxicity to Aquatic Plants: EC50: > 1,000 mg/l, (Green algae (*Scenedesmus subspicatus*), 72 h)

Toxicity to Microorganisms:

EC50: > 1,000 mg/l, (Activated sludge microorganisms, 3 h)

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98-56-6

parachlorobenzotrifluoride

Biodegradability- Product:

64% Test substance: 1-chloro-4-(trifluoromethyl)benzene

Biodegradability- Components

p-Trifluoromethylphenyl chloride:

Anaerobic 64%

Bioaccumulation- Product:

No data available

Ecotoxicity effects

Toxicity to fish- Product:

No data available

Toxicity to fish- Components

p-Trifluoromethylphenyl chloride:

LC50: 5.6 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates- Product:

No data available

Toxicity to daphnia and other aquatic invertebrates- Components

p-Trifluoromethylphenyl chloride

Remarks:

No data available

Toxicity to algae- Product:

No data available

Toxicity to algae- Components

p-Trifluoromethylphenyl chloride

Remarks:



No data available

Toxicity to bacteria- Product:  
No data available  
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**Section 13 -- DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL METHOD:**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

**Section 14 -- TRANSPORT INFORMATION**

Proper Shipping Name: Consumer Commodity  
NOS Technical Name: ORM-D  
Hazard Class: N/A  
UN Number: N/A  
Packing Group: N/A

**Section 15 -- REGULATORY INFORMATION**

**Canadian Regulations:**

CEPA (Canadian Environmental Protection Act): <

All substances in this product are listed on the Canadian Domestic Substance List (DSL) or are not required to be listed.

**US Regulations:**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**SARA 313:**

CAS No.	CHEMICAL/COMPOUND	% by
WT		

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None

**PROP 65**

CAS No.	CHEMICAL COMPOUND	% by
WT		

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None

**TSCA CERTIFICATION:**

U.S. TSCA: This product and/or all of its components are listed on the U.S. TSCA Inventory or is otherwise exempt from TSCA Inventory reporting requirements.

## Section 16 -- OTHER INFORMATION

### DISCLAIMER:

Do not handle until the manufacturer's safety precautions have been read and understood. Regulations require that all employees be trained on Material Safety Data Sheets for all products with which they come in contact. While we believe that the data contained herein is accurate and derived from qualified sources, the data are not to be taken as a warranty or representation for which we assume legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, provincial, and local laws and regulations.