
1. PRODUCT AND COMPANY IDENTIFICATION

DYNAMASK(R) 5000 Series (DFSM)

Revision date: 01/01/2004

Supplier Rohm and Haas Electronic Materials LLC
455 Forest Street
Marlborough, MA 01752 United States of America

For non-emergency information contact: 508-481-7950

Emergency telephone number

Chemtec 800-424-9300
Rohm and Haas Emergency 215-592-3000

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Multifunctional acrylic monomer/oligomer		10.0 - <= 30.0 %
Multifunctional acrylic monomer/oligomer		10.0 - <= 30.0 %
Multifunctional acrylic monomer		5.0 - <= 10.0 %
Multifunctional acrylic monomer/oligomer		5.0 - <= 10.0 %
melamine resin		5.0 - <= 10.0 %
Proprietary initiator		1.0 - <= 5.0 %
Acrylic Monomer		1.0 - <= 5.0 %
Antimony pentoxide	1314-60-9	1.0 - <= 5.0 %
Formaldehyde	50-00-0	0.0 - < 0.1 %

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form solid
Colour green

Odour Odorless

Hazard Summary**WARNING!**

Contact with eyes, skin, and mucous membranes may cause irritation.

Contains a material which may cause cancer.

May cause allergic respiratory reaction and/or skin reaction.

Potential Health Effects

Primary Routes of Entry: Inhalation, ingestion, eye and skin contact.

Eyes: May cause pain, transient irritation and superficial corneal effects.

Skin: Material may cause irritation.

Prolonged or repeated contact may cause itching and soreness and possible sensitization.

Ingestion: Swallowing may have the following effects:
irritation of mouth, throat and digestive tract

Inhalation: Inhalation may have the following effects:
irritation of nose, throat and respiratory tract

Target Organs: Eye

Respiratory System

Skin

Carcinogenicity

Multifunctional acrylic monomer/oligomer	ACGIH	Not classifiable as a human carcinogen.
Multifunctional acrylic monomer/oligomer	IARC	Possible carcinogen.
Multifunctional acrylic monomer/oligomer	IARC	Limited data.
Multifunctional acrylic monomer	ACGIH	Not classifiable as a human carcinogen.
Multifunctional acrylic monomer	IARC	Classification not possible from current data.
Formaldehyde	US CA CRT	Carcinogenic.
Formaldehyde	ACGIH	Sensitiser.
Formaldehyde	ACGIH	Suspected human carcinogen.
Formaldehyde	IRIS	Probable human carcinogen - limited human evidence.
Formaldehyde	NIOSH	Carcinogenic.
Formaldehyde	NTP CARC	Anticipated carcinogen.
Formaldehyde	OSHA	Potential cancer hazard.
Formaldehyde	US CA OEL	Cancer hazard.
Formaldehyde	IARC	Limited data.
Formaldehyde	IARC	Sufficient data.
Formaldehyde	IARC	Probable carcinogen.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Skin contact: Wash off immediately with plenty of water.

Eye contact: Immediately flush eye(s) with plenty of water.

Ingestion: Wash out mouth with water.

Notes to physician

Treat symptomatically. Skin or eye contact with uncured photopolymer, vapours or condensate may result in skin or eye irritation, rash or allergic skin rashes.

5. FIRE-FIGHTING MEASURES

Flash point Nonflammable

Suitable extinguishing media: combustible material
Use extinguishing media appropriate for surrounding fire.

Specific hazards during fire fighting: No specific measures necessary.

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: This product may give rise to hazardous vapors in a fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective clothing.

Environmental precautions

No specific measures necessary.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal.

Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

7. HANDLING AND STORAGE

Handling

Use only in well-ventilated areas. Avoid breathing vapor. Avoid contact with skin, eyes and clothing.

Further information on storage conditions: Practice good personal hygiene to prevent accidental exposure.

Storage

Storage conditions: Storage area should be: cool dry out of direct sunlight well ventilated away from incompatible materials

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Multifunctional acrylic monomer/oligomer	Rohm and Haas	TWA	25 ppm
	Rohm and Haas	STEL	50 ppm
	Rohm and Haas	Absorbed via skin	
	ACGIH	TWA	85 mg/m3 20 ppm
	ACGIH	STEL	170 mg/m3 40 ppm
	OSHA/Z2	TWA	100 ppm
	OSHA/Z2	Ceiling	200 ppm
	OSHA/Z2	MAX. CONC	600 ppm

Component	Regulation	Type of listing	Value
Multifunctional acrylic monomer	Rohm and Haas	TWA	2 ppm
	Rohm and Haas	STEL	6 ppm
	Rohm and Haas	Absorbed via skin	
	ACGIH	SKIN_DES	
	ACGIH	TWA	5.9 mg/m3 2 ppm

Component	Regulation	Type of listing	Value
Acrylic Monomer	Rohm and Haas	TWA	0.5 ppm
	Rohm and Haas	STEL	1.5 ppm
	Rohm and Haas	Absorbed via skin	

Component	Regulation	Type of listing	Value
Antimony pentoxide	OSHA_TRANS	PEL Respirable fraction.	5 mg/m3
	OSHA_TRANS	PEL Total dust.	15 mg/m3
	OSHA Z3	Respirable fraction.	
	OSHA Z3	Total dust.	
	ACGIH	TWA	0.5 mg/m3
	OSHA_TRANS	PEL	0.5 mg/m3
	Z1A	TWA	0.5 mg/m3
	ACGIH	TWA Respirable particles.	3 mg/m3
	ACGIH	TWA Inhalable particles.	10 mg/m3

Component	Regulation	Type of listing	Value
Formaldehyde	Rohm and Haas	Ceiling	0.3 ppm
	ACGIH	Ceiling	0.37 mg/m3 0.3 ppm
	OSHASP	TWA	0.75 ppm
	OSHASP	STEL	2 ppm
	OSHASP	OSHA_ACT	0.5 ppm
	Z1A	TWA	0.75 ppm
	Z1A	STEL	2 ppm
	US CA OEL	TWA PEL	0.75 ppm
	US CA OEL	STEL	2 ppm
	US CA OEL	TWA A LV	0.5 ppm
	OSHASP	REF	

Eye protection: goggles

Hand protection: protective gloves

Skin and body protection: Normal work wear.

Respiratory protection: No personal respiratory protective equipment normally required. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hygiene measures: Wash thoroughly with soap and water after handling condensate or wipes and after cleaning the exhaust ventilation system.

Engineering measures: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	solid
Colour	green
Odour	Odorless
pH	not applicable
Boiling point/range	not applicable
Flash point	Nonflammable
Vapour pressure	not applicable
Relative vapour density	not applicable
Water solubility	insoluble
Relative density	not applicable
Evaporation rate	not applicable
VOC's	0 g/l

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	Stable under normal conditions.
Conditions to avoid	High temperatures
Materials to avoid	Oxidizers
Hazardous decomposition products	Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, etc.), Acrylics, monomer vapors,
polymerization	exposure to ultraviolet light will eventually cause non-hazardous polymerization of the dry film

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Skin irritation The substances accumulated in the condensate, among them acrylate monomers, can lead to delayed skin burns and skin sensitization after skin contact.

Component: **Multifunctional acrylic monomer/oligomer**
Acute oral toxicity LD50 mouse 316 mg/kg

Component: **Multifunctional acrylic monomer/oligomer**
Acute oral toxicity LD50 rat 4,370 mg/kg

Component: **melamine resin**
Acute oral toxicity LD50 rat 5,000 mg/kg

Component: **Proprietary initiator**
Acute oral toxicity LD50 rat 1,800 mg/kg

Component: **Acrylic Monomer**
Acute oral toxicity LD50 rat 820 mg/kg

Component: **Formaldehyde**
Acute oral toxicity LD50 rat 800 mg/kg

Component: **Multifunctional acrylic monomer/oligomer**
Acute inhalation toxicity LC50 rat 4 h 50.26 mg/l

Component: **Multifunctional acrylic monomer/oligomer**
Acute dermal toxicity LD50 rabbit > 5,010 mg/kg

Component: **Multifunctional acrylic monomer**
Acute dermal toxicity LD50 rabbit 951 mg/kg

Component: **Proprietary initiator**
Acute dermal toxicity LD50 rabbit > 2,000 mg/kg

Component: **Acrylic Monomer**
Acute dermal toxicity LD50 rabbit 306 mg/kg

Component: **Formaldehyde**
Acute dermal toxicity LD50 rabbit 270 mg/kg

Component: **Formaldehyde**
Subchronic toxicity In laboratory animals, prolonged inhalation exposure produced carcinogenesis in the following tissues or systems:
 Nasal Cavity
 Adverse effects were seen in the following species:
 rats

Component: **Formaldehyde**
Carcinogenicity: Suspected human carcinogen.

Component: **Formaldehyde**

Mutagenicity

Human lymphocytes in vitro

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Proprietary initiator**Ecotoxicity effects****Toxicity to fish**LC50 Zebra fish (Danio/Brachydanio rerio) 96 h
9 mg/l**Toxicity to aquatic invertebrates**EC50 Daphnia magna 24 h
15 mg/l**Formaldehyde****Ecotoxicity effects****Toxicity to fish**LC50 Rainbow trout
50 mg/l**Toxicity to aquatic invertebrates**EC50 Daphnia magna
2 mg/l

13. DISPOSAL CONSIDERATIONS

Environmental precautions: No specific measures necessary.

Disposal

Dispose in accordance with all local, state (provincial), and federal regulations. This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

15. REGULATORY INFORMATION

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Immediate health hazard

SARA TITLE III: Section 313 Information (40CFR372)

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations.

SARA Title III Components: Antimony Compounds
Formaldehyde 50-00-0

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D):

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
This product does not contain any substances subject to Section 12(b) export notification.

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer and/or reproductive harm.

Components: Formaldehyde 50-00-0

16. OTHER INFORMATION**Hazard Rating**

	Health	Fire	Reactivity
NFPA	1	1	1

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAC	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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