

0.2% Diethylamine in Methanol (v/v) - (549)

Version 1

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Print Date 05/13/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 0.2% Diethylamine in Methanol (v/v) - (549)
MSDS Number : 000000012996
Product Use Description : Laboratory Use

Company : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701
: **Transportation: 1-800-424-9300 or 703-527-3887**
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : slight, product specific

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. May be fatal if swallowed. May be fatal if inhaled. May be harmful if absorbed through skin. Irritating to eyes, respiratory system and skin. Causes headache, drowsiness or other effects to the central nervous system. May cause blindness. The product may be absorbed through the skin. Repeated exposure may cause skin dryness or cracking. Do not swallow. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. This product may cause adverse reproductive effects. Possible risk of harm to the unborn child. Avoid exposure to pregnant women especially.

Potential Health Effects

Skin : Irritating to skin.
The product may be absorbed through the skin.
May cause systemic poisoning with symptoms paralleling those of inhalation.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

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Eyes	: Irritating to eyes. Causes itching, burning, redness and tearing. May cause blindness. May cause irreversible eye damage.
Ingestion	: May be fatal if swallowed. Causes headache, drowsiness or other effects to the central nervous system. May cause blindness if swallowed. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.
Inhalation	: May be fatal if inhaled. Causes respiratory tract irritation. Causes headache, drowsiness or other effects to the central nervous system. Vapours may cause drowsiness and dizziness. Inhalation of high vapour concentrations can cause CNS-depression and narcosis. May cause blindness. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.
Chronic Exposure	: Causes damage to the kidneys/liver/eyes/brain/respiratory system/central nervous system through prolonged or repeated exposure. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. This product may cause adverse reproductive effects. Possible risk of harm to the unborn child.
Aggravated Medical Condition	: Liver disorders Eye disorders Skin disorders Neurological disorders Kidney disorders Do not use if pregnant.
Target Organs	: Eyes Skin Liver Kidney Respiratory system Central nervous system Gastrointestinal tract

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Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Methanol	67-56-1	>99.00
Diethylamine	109-89-7	<1.00

SECTION 4. FIRST AID MEASURES

- Inhalation : Call a physician immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
- Ingestion : Call a physician immediately. Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

Notes to physician

- Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : 8.9 °C (48.0 °F)
- Lower explosion limit : not determined
- Upper explosion limit : not determined
- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)

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	Dry chemical
Extinguishing media which shall not be used for safety reasons	: Water may be ineffective. Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire fighting	: Flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. In case of fire hazardous decomposition products may be produced such as: Formaldehyde Carbon dioxide (CO ₂), carbon monoxide (CO), oxides of nitrogen (NO _x), dense black smoke.
Special protective equipment for fire-fighters	: In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit. No unprotected exposed skin areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	: Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Do not swallow. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Environmental precautions	: Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Methods for cleaning up	: Ventilate the area. No sparking tools should be used. Use explosion-proof equipment. Contain and collect spillage with non-combustible absorbent

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materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**

Handling : Handle with care.
Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from fire, sparks and heated surfaces.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.
No sparking tools should be used.
Use explosion-proof equipment.
Do not smoke.
Do not swallow.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Vapours may form explosive mixtures with air.
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
Container hazardous when empty.
Keep product and empty container away from heat and sources of ignition.
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Take measures to prevent the build up of electrostatic charge.
To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.
Electrical equipment should be protected to the appropriate standard.
No sparking tools should be used.
Use explosion-proof equipment.
No smoking.

Storage

Requirements for storage : Storage rooms must be properly ventilated.

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areas and containers

Keep containers tightly closed in a dry, cool and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Keep away from heat and sources of ignition.
 Keep away from direct sunlight.
 Store in area designed for storage of flammable liquids. Protect from physical damage.
 Store away from incompatible substances.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
 Do not swallow.
 Do not breathe vapours or spray mist.
 Avoid contact with skin, eyes and clothing.

Engineering measures : Use with local exhaust ventilation.
 Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection : Do not wear contact lenses.
 Wear as appropriate:
 Safety glasses with side-shields
 If splashes are likely to occur, wear:
 Goggles or face shield, giving complete protection to eyes

Hand protection : Solvent-resistant gloves
 Gloves must be inspected prior to use.
 Replace when worn.

Skin and body protection : Wear as appropriate:
 Solvent-resistant apron and boots
 Flame retardant antistatic protective clothing
 If splashes are likely to occur, wear:
 Protective suit

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
 For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
 Use NIOSH approved respiratory protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 When using, do not eat, drink or smoke.
 Wash hands before breaks and immediately after handling the product.

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Keep working clothes separately.
 Do not swallow.
 Do not breathe vapours or spray mist.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Methanol	67-56-1	ACGIH	TWA	200 ppm	
		ACGIH	STEL	250 ppm	
	Skin designation: Can be absorbed through the skin.				
	NIOSH	REL	200 ppm	260 mg/m3	
	NIOSH	STEL	250 ppm	325 mg/m3	
	Skin designation: Can be absorbed through the skin.				
	US CA OEL	TWA PEL	200 ppm	260 mg/m3	
	US CA OEL	Ceiling		1,000 ppm	
	US CA OEL	STEL	250 ppm	325 mg/m3	
	Skin designation: Can be absorbed through the skin.				
Diethylamine	109-89-7	OSHA Z1	PEL	200 ppm	260 mg/m3
		OSHA Z1A	TWA	200 ppm	260 mg/m3
		OSHA Z1A	STEL	250 ppm	325 mg/m3
	Skin designation (Final Rule Limit applies): Can be absorbed through the skin.				
	ACGIH	TWA	5 ppm		
	ACGIH	STEL	15 ppm		
	Skin designation: Can be absorbed through the skin.				
NIOSH	REL	10 ppm	30 mg/m3		
NIOSH	STEL	25 ppm	75 mg/m3		
OSHA Z1	PEL	25 ppm	75 mg/m3		

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OSHA Z1A	TWA	10 ppm	30 mg/m ³
OSHA Z1A	STEL	25 ppm	75 mg/m ³
US CA OEL	Ceiling	5 ppm	15 mg/m ³

Skin designation:
 Can be absorbed through the skin.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquid, clear
Color	: colourless
Odor	: slight, product specific
pH	: 11.5 (as aqueous solution)
Melting point/range	: not determined
Boiling point/boiling range	: 54.4 °C (129.9 °F)
Vapor pressure	: 129.32 hPa at 20 °C (68 °F) The information regarding the vapour pressure is that of the solvent.
Density	: 0.791 g/cm ³ at 20 °C (68 °F)
Water solubility	: completely soluble

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight.
Materials to avoid	: Strong oxidizing agents Aluminium Magnesium May attack many plastics, rubbers and coatings.
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Formaldehyde

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Hazardous reactions : Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

: Hazardous polymerisation does not occur.
Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Component)	Component: 67-56-1 Methanol LD50 rat Dose: 5,628 mg/kg
Acute oral toxicity (Component)	Component: 109-89-7 Diethylamine LD50 rat Dose: 540 - 1,000 mg/kg
Acute dermal toxicity (Component)	Component: 67-56-1 Methanol LD50 rabbit Dose: 15,800 mg/kg
Acute dermal toxicity (Component)	Component: 109-89-7 Diethylamine LD50 rabbit Dose: 582 - 633 mg/kg
Acute inhalation toxicity (Component)	Component: 67-56-1 Methanol LC50 rat Dose: 83.8 mg/l Exposure time: 4 h
Acute inhalation toxicity (Component)	Component: 109-89-7 Diethylamine LC50 rat Dose: 12.1 - 17.3 mg/l Exposure time: 4 h
Skin irritation (Component)	Component: 67-56-1 Methanol rabbit irritating Exposure time: 24 h
Skin irritation (Component)	Component: 109-89-7 Diethylamine rabbit Corrosive Corrosive
Eye irritation (Component)	Component: 67-56-1 Methanol rabbit eye irritating
Eye irritation (Component)	Component: 109-89-7 Diethylamine

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 rabbit
 irritating

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish
(Component) : Component: 67-56-1 Methanol
 LC50
 Species: Fathead minnow
 Dose: 29,400 mg/l
 Exposure time: 96 h

Toxicity to daphnia and
other aquatic invertebrates.
(Component) : Component: 67-56-1 Methanol
 LC50
 Species: Daphnia
 Dose: 10 g/l
 Exposure time: 24 h

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Information: Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN-Number : 1993
 Proper shipping name : FLAMMABLE LIQUID, N.O.S.
 (Methanol
 , Diethylamine
)
 Class : 3
 Packing group : II
 Hazard Label : 3

IATA UN Number : 1993
 Description of the goods : FLAMMABLE LIQUID, N.O.S.
 (Methanol, Diethylamine
)
 Class : 3
 Packaging group : II
 Hazard Label : 3
 Packing instruction (cargo
 aircraft) : 307
 Packing instruction : 305
 (passenger aircraft)
 Packing instruction : Y305

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(passenger aircraft)

IMDG	Substance No.	: UN 1993
	Description of the goods	: FLAMMABLE LIQUID, N.O.S. (METHANOL , DIETHYLAMINE)
	Class	: 3
	Packaging group	: II
	Hazard Label	: 3
	EmS Number	: F-E
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION
Inventories

EU. EINECS	: On the inventory, or in compliance with the inventory
US. Toxic Substances Control Act	: On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	: On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	: All components of this product are on the Canadian DSL list.
Japan. Kashin-Hou Law List	: On the inventory, or in compliance with the inventory
Korea. Toxic Chemical Control Law (TCCL) List	: On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	: On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	: On the inventory, or in compliance with the inventory

National regulatory information

SARA 313 Components : Methanol 67-56-1

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SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard Chronic Health Hazard
CERCLA Reportable Quantity	:	5000 lbs
California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.
Massachusetts RTK	:	Methanol 67-56-1 Diethylamine 109-89-7
New Jersey RTK	:	Methanol 67-56-1 Diethylamine 109-89-7
Pennsylvania RTK	:	Methanol 67-56-1 Diethylamine 109-89-7
WHMIS Classification	:	D1B D2A D2B B2

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health Hazard	: 2*	2
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

Further information

* - Chronic health hazard