

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 0.2% Diethylamine in Acetonitrile (v/v) - (805)
MSDS Number : 000000013074
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 +1-703-527-3887
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : sweet ether-like

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. May be harmful if inhaled. May be harmful if absorbed through skin. May be harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause irritation of the gastrointestinal tract. Can cause fatal cyanide poisoning. May cause convulsions. Symptoms may be delayed. Can be absorbed through skin. Repeated exposure may cause skin dryness or cracking.

Potential Health Effects

Skin : Irritating to skin.
Can be absorbed through skin.
May be harmful if absorbed through skin.
Can cause fatal cyanide poisoning.
Symptoms may be delayed.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eyes : Irritating to eyes.

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

- Causes itching, burning, redness and tearing.
- Ingestion** : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
 May cause systemic poisoning with symptoms paralleling those of inhalation.
 Can cause fatal cyanide poisoning.
 Symptoms may be delayed.
- Inhalation** : Causes respiratory tract irritation.
 Inhalation of high vapour concentrations can cause CNS-depression and narcosis.
 Causes headache, drowsiness or other effects to the central nervous system.
 Can cause fatal cyanide poisoning.
 Symptoms may be delayed.
- Chronic Exposure** : Can cause fatal cyanide poisoning.
 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.
- Aggravated Medical Condition** : People suffering from pre-existing thyroid conditions may experience adverse effects.
 Neurological disorders
 Heart disease
 Respiratory disorders
 Liver disorders
 Kidney disorders
 Skin disorders
 Eye disorders
- Target Organs** : Respiratory system
 Cardiovascular system
 Central nervous system
 Liver
 Kidney

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 %
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0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

Acetonitrile	75-05-8	99.80
Diethylamine	109-89-7	0.20

SECTION 4. FIRST AID MEASURES

- Inhalation : 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. Call a physician.
- 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. Immediate medical attention is required. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to physician

- Treatment : Treat as cyanide poisoning. Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : 7.2 °C (45.0 °F)
closed cup
- Lower explosion limit : not determined
- Upper explosion limit : not determined
- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry chemical
Alcohol-resistant foam
Cool closed containers exposed to fire with water spray.
- Extinguishing media which shall not be used for safety reasons : 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.

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
In case of fire hazardous decomposition products may be produced such as:
Hydrogen cyanide (hydrocyanic acid)
Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Wear personal protective equipment.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Remove all sources of ignition.
Do not swallow.
Avoid breathing vapors, mist or gas.
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 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 : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not smoke.
Do not swallow.
Avoid breathing vapors, mist or gas.
Avoid contact with skin, eyes and clothing.

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.
Use explosion-proof equipment.
Keep product and empty container away from heat and sources of ignition.
No sparking tools should be used.
No smoking.

Storage

Requirements for storage areas and containers : Store in area designed for storage of flammable liquids. Protect from physical damage.
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 away from incompatible substances.
Container hazardous when empty.
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

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
Flame retardant antistatic protective clothing
If splashes are likely to occur, wear:

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

Protective suit

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
 For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
 Use NIOSH approved respiratory protection.

Hygiene measures : When using, do not eat, drink or smoke.
 Wash hands before breaks and immediately after handling the product.
 Keep working clothes separately.
 Remove and wash contaminated clothing before re-use.
 Do not swallow.
 Avoid breathing vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Acetonitrile	75-05-8	ACGIH	TWA	20 ppm
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Skin designation:
 Can be absorbed through the skin.

NIOSH	REL	20 ppm	34 mg/m3
US CA OEL	TWA PEL	40 ppm	70 mg/m3
US CA OEL	STEL	60 ppm	105 mg/m3

Skin designation:
 Can be absorbed through the skin.

OSHA Z1	PEL	40 ppm	70 mg/m3
OSHA Z1A	TWA	40 ppm	70 mg/m3
OSHA Z1A	STEL	60 ppm	105 mg/m3

Diethylamine	109-89-7	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

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

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	: sweet ether-like
pH	: 12.1
Melting point/range	: not determined
Boiling point/boiling range	: 60.56 °C (141.01 °F)
Vapor pressure	: 97.325 hPa at 20 °C (68 °F) The physical data is that of the main component.
Relative vapour density	: not determined, (Air = 1.0)
Density	: 0.7817 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	: Acids Bases Oxidizing agents Reducing agents Sulfites Perchlorates May attack many plastics, rubbers and coatings.

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

Print Date 07/30/2008

- Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Hydrogen cyanide (hydrocyanic acid)
Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.
- Hazardous reactions : Hazardous polymerisation does not occur.
Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50 rat
Dose: 2,460 mg/kg
Test substance: Acetonitrile
- Acute oral toxicity : LD50 rat
Dose: 540 - 1,000 mg/kg
Test substance: Diethylamine
- Acute dermal toxicity : LD50 rabbit
Dose: > 2,000 mg/kg
Test substance: Acetonitrile
- Acute dermal toxicity : LD50 rabbit
Dose: 582 - 633 mg/kg
Test substance: Diethylamine
- Acute inhalation toxicity : LC50 rat
Dose: 7551 ppm
Exposure time: 8 h
Test substance: Acetonitrile
- Acute inhalation toxicity : LC50 rat
Dose: 12.1 - 17.3 mg/l
Exposure time: 4 h
Test substance: Diethylamine
- Skin irritation : rabbit
Corrosive
Test substance: Diethylamine
- Eye irritation : rabbit
irritating
Test substance: Diethylamine

SECTION 12. ECOLOGICAL INFORMATION

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

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Print Date 07/30/2008

Toxicity to fish : flow-through test LC50
 Species: Pimephales promelas (fathead minnow)
 Dose: 1,640 mg/l
 Exposure time: 96 h
 Test substance: Acetonitrile

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.
 (Acetonitrile
 , Diethylamine
)
 Class : 3
 Packing group : II
 Hazard Label : 3

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

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

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Print Date 07/30/2008

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

Acetonitrile

75-05-8

National regulatory information

- SARA 311/312 Hazards** : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

- CERCLA Reportable Quantity** : 5010 lbs

0.2% Diethylamine in Acetonitrile (v/v) - (805)

Version 1

Revision Date 07/30/2008

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California Prop. 65 : WARNING! This product contains a chemical known in the State of California to cause cancer.
Acrylonitrile 107-13-1

Massachusetts RTK : Acetonitrile 75-05-8
: Diethylamine 109-89-7

New Jersey RTK : Acetonitrile 75-05-8
: Diethylamine 109-89-7

Pennsylvania RTK : Acetonitrile 75-05-8
: Diethylamine 109-89-7

WHMIS Classification : B2
D1A
D2B

SECTION 16. OTHER INFORMATION

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

Further information

* - Chronic health hazard