

50% Acetonitrile / 30% Lutidine / 20% NMI (v/v) (733)

Version 1

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 50% Acetonitrile / 30% Lutidine / 20% NMI (v/v) (733)
MSDS Number : 000000013451
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 : ether-like

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. Corrosive. Causes burns. Harmful if swallowed. Harmful if absorbed through skin. May be harmful if inhaled. 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 : Causes skin burns.
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 : Causes eye burns.
Causes itching, burning, redness and tearing.

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Ingestion : Ingestion causes burns of the upper digestive and respiratory tracts.
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 : Inhaled corrosive substances can lead to a toxic oedema of the lungs.
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

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Component	CAS-No.	Weight %
Acetonitrile	75-05-8	44.80
2,6-Dimethylpyridine	108-48-5	31.60
1-Methylimidazole	616-47-7	23.60

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 immediately.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
- Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician immediately.

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 : 10 °C (50 °F)
closed cup
- Ignition temperature : 524 °C (975 °F)
The physical data is that of the main component.
- Lower explosion limit : 3 %(V)
The physical data is that of the main component.
- Upper explosion limit : 16 %(V)
The physical data is that of the main component.
- Suitable extinguishing : Carbon dioxide (CO₂)

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media		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. 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 (CO ₂), 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. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on 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).

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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.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.

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.

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- 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:
 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.
 Do not breathe vapours or spray mist.
 Do not get in eyes, on skin, or on clothing.

Exposure Guidelines

Acetonitrile 75-05-8 ACGIH TWA 20 ppm

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

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquid, clear
Color	: colourless
Odor	: ether-like
pH	: 10.8 (as aqueous solution)
Melting point/range	: -43.8 °C (-46.8 °F) The physical data is that of the main component.
Boiling point/boiling range	: 73.89 °C (165.00 °F)
Vapor pressure	: 97.3 hPa at 20 °C (68 °F) The physical data is that of the main component.
Relative vapour density	: 1.42 (Air = 1.0), The physical data is that of the main component.
Density	: 0.8786 g/cm ³ at 20 °C (68 °F)
Density	: 0.8734 g/cm ³ at 25 °C (77 °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.
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Hydrogen cyanide (hydrocyanic acid) Carbon dioxide (CO ₂), carbon monoxide (CO), oxides of

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nitrogen (NOx), 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: 457 mg/kg
Test substance: 2,6-Dimethylpyridine

Acute oral toxicity : LD50 rat
Dose: 1,130 mg/kg
Test substance: 1-Methylimidazole

Acute dermal toxicity : LD50 rabbit
Dose: > 2,000 mg/kg
Test substance: Acetonitrile

Acute dermal toxicity : LD50 rabbit
Dose: > 1,000 mg/kg
Test substance: 2,6-Dimethylpyridine

Acute dermal toxicity : LD50 rabbit
Dose: 400 - 600 mg/kg
Test substance: 1-Methylimidazole

Acute inhalation toxicity : LC50 rat
Dose: 7551 ppm
Exposure time: 8 h
Test substance: Acetonitrile

Skin irritation : rabbit
Corrosive
Test substance: 1-Methylimidazole

Eye irritation : rabbit
Corrosive
Test substance: 1-Methylimidazole

SECTION 12. ECOLOGICAL INFORMATION

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Biodegradability	:	Not readily biodegradable. Test substance: 1-Methylimidazole
Toxicity to fish	:	flow-through test LC50 Species: Pimephales promelas (fathead minnow) Dose: 1,640 mg/l Exposure time: 96 h Test substance: Acetonitrile
Toxicity to fish	:	static test LC50 Species: Leuciscus idus (Golden orfe) Dose: 100 - 220 mg/l Exposure time: 96 h Test substance: 1-Methylimidazole
Toxicity to fish	:	EC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: > 5,000 µg/l
Toxicity to daphnia and other aquatic invertebrates.	:	static test EC50 Species: Daphnia magna (Water flea) Dose: 268 mg/l Exposure time: 48 h Test substance: 1-Methylimidazole
Toxicity to algae	:	EC50 Species: Algae Dose: 180 mg/l Exposure time: 72 h Test substance: 1-Methylimidazole
Toxicity to bacteria	:	EC50 Species: Bacteria Dose: 1,100 mg/l Exposure time: 17 h Test substance: 1-Methylimidazole

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT	UN-Number	:	2924
	Proper shipping name	:	Flammable liquid, corrosive, n.o.s.

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	(Acetonitrile , 2,6-Dimethylpyridine , 1-Methylimidazole)
Class	3
Packing group	II
Hazard Label	3 (8)

IATA	UN Number	: 2924
	Description of the goods	: Flammable liquid, corrosive, n.o.s. (Acetonitrile, 2,6-Dimethylpyridine , 1-METHYLIMIDAZOLE)
	Class	: 3
	Packaging group	: II
	Hazard Label	: 3 (8)
	Packing instruction (cargo aircraft)	: 307
	Packing instruction (passenger aircraft)	: 305
	Packing instruction (passenger aircraft)	: Y305

IMDG	Substance No.	: UN 2924
	Description of the goods	: Flammable liquid, corrosive, n.o.s. (ACETONITRILE , 2,6-DIMETHYLPYRIDINE , 1-METHYLIMIDAZOLE)
	Class	: 3
	Packaging group	: II
	Hazard Label	: 3 (8)
	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

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- 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
- Switzerland. Consolidated Inventory : On the inventory, or in compliance with the inventory
- New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : 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 313 Components** : Acetonitrile 75-05-8
- SARA 311/312 Hazards** : Fire Hazard
Acute Health Hazard
Chronic Health Hazard
- CERCLA Reportable Quantity** : 11161 lbs

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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

New Jersey RTK : Acetonitrile 75-05-8

Pennsylvania RTK : Acetonitrile 75-05-8

WHMIS Classification : B2
E
D1A
D2B

SECTION 16. OTHER INFORMATION

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

Further information

* - Chronic health hazard