Methanol (230, 232, 233)

Version 1 | Revision Date 11/10/2009 | Print Date 05/11/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Methanol (230, 232, 233)
MSDS Number	:	000000011383
Product Use Description	:	Solvent

Company	:	Honeywell International, Inc. 101 Columbia Road Morristown, NJ 07962-1057
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	:	slight alcoholic
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. May cause blindness. May cause irritation of the gastrointestinal tract. Can be absorbed through skin. Repeated exposure may cause skin dryness or cracking. This product may cause adverse reproductive effects. Possible risk of harm to the unborn child.

Potential Health Effects

Skin	:	Irritating to skin. Can be absorbed through skin. May be harmful if absorbed through 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.

Eyes	:	Irritating to eyes. Causes itching, burning, redness and tearing. May cause blindness.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Causes headache, drowsiness or other effects to the central nervous system. May cause systemic poisoning with symptoms paralleling those of inhalation.
Inhalation	:	Causes respiratory tract irritation. Causes headache, drowsiness or other effects to the central nervous system. Inhalation of high vapour concentrations can cause CNS-depression and narcosis. May cause blindness.
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 Respiratory system Central nervous system Gastrointestinal tract

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 percent

Methanol	67-56-1	100.00

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	:	11 °C (52 °F) closed cup
Ignition temperature	:	464 °C (867 °F)
Lower explosion limit	:	6 %(V)
Upper explosion limit	:	36 %(V)
Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical 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:
Carbon monoxide
Carbon dioxide (CO2)
Formaldehyde

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.
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.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and 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. 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.
Do not swallow.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and clothing.
This material has an established AIHA ERPG exposure limit.
The current list of ERPG exposure limits can be found at http://www.aiha.org/1documents/Committees/ERP-erpglevels.pdf.

Exposure Guidelines

Methanol	67-56-1	CAD AB OEL	TWA	200 ppm	262 mg/m3
		CAD AB OEL	STEL	250 ppm	328 mg/m3
		Skin designation: Can be absorbed through the skin.			
		CAD BC OEL	TWA		200 ppm
		CAD BC OEL	STEL		250 ppm
		Skin designation: Can be absorbed through the skin.			
		CAD ON OEL	TWA	200 ppm	260 mg/m3
		CAD ON OEL	STEL	250 ppm	325 mg/m3
		Skin designation: Can be absorbed through the skin.			
		OEL (QUE)	TWA	200 ppm	262 mg/m3
		OEL (QUE)	STEL	250 ppm	328 mg/m3
		Skin designation:			

Can be absorbed through the skin.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid, clear
Color	:	colourless
Odor	:	slight alcoholic
Molecular Weight	:	34.04 g/mol
pH	:	not applicable
Melting point/range	:	not applicable
Boiling point/boiling range	:	64.7 °C (148.5 °F)
Vapor pressure	:	129.32 hPa at 20 °C (68 °F)
Relative vapour density	:	1.11 (Air = 1.0)
Density	:	0.792 g/cm3 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: Carbon monoxide Carbon dioxide (CO2) Formaldehyde
Hazardous reactions	:	Hazardous polymerisation does not occur. Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 rat Dose: 5,628 mg/kg
Acute dermal toxicity	:	LD50 rabbit Dose: 15,800 mg/kg
Acute inhalation toxicity	:	LC50 rat Dose: 64000 ppm Exposure time: 4 h
Skin irritation	:	rabbit irritating Exposure time: 24 h
Eye irritation	:	rabbit eye irritating
Repeated dose toxicity	:	Inhalation rat Developmental Toxicity, NOAEL (maternal toxicity), 10,000 ppm, NOAEL (developmental toxicity), 5,000 ppm, Skeletal and visceral malformations. Test substance: Methanol
Genotoxicity in vitro	:	Test substance: Methanol In vitro tests did not show mutagenic effects
Genotoxicity in vivo	:	Test substance: Methanol In vivo tests did not show mutagenic effects

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish	:	LC50 Species: Fathead minnow Dose: 29,400 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates.	:	LC50 Species: Daphnia Dose: 10,000 mg/l Exposure time: 24 h
Toxicity to bacteria	:	EC50 Species: Photobacterium phosphoreum

Dose: 43,000 mg/l
Exposure time: 5 min

Toxicity to bacteria : EC50
Species: Photobacterium phosphoreum
Dose: 40,000 mg/l
Exposure time: 15 min

Toxicity to bacteria : EC50
Species: Photobacterium phosphoreum
Dose: 39,000 mg/l
Exposure time: 25 min

Additional ecological information : Accumulation in aquatic organisms is unlikely.
The product is readily degradable in the environment.
Do not flush into surface water or sanitary sewer system.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

TDG	UN-Number	:	1230
	Proper shipping name	:	Methanol
	Class		3
	Packing group		II
	Hazard Labels		3 (6.1)
IATA	UN Number	:	1230
	Description of the goods	:	Methanol
	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3 (6.1)
	Packing instruction (cargo aircraft)	:	307
	Packing instruction (passenger aircraft)	:	305
	Packing instruction (passenger aircraft)	:	Y305
IMDG	Substance No.	:	UN 1230
	Description of the goods	:	Methanol
	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3 (6.1)

EmS Number	:	F-E
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

Inventories

1907/2006 (EU)	:	This mixture contains only ingredients which have been subject to a pre-registration according to Regulation (EC) No. 1907/2006 (REACH).
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
NZIOC - New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

WHMIS Classification	:	B2 D1B D2A D2B This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS			
Components	:	Methanol	67-56-1
NPRI			
Components	:	Methanol	67-56-1

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	2*	1
Flammability	:	3	3
Physical Hazard	:	0	
Instability	:		0

Further information

* - Chronic health hazard