Karl Fischer reagent solution B

36117-1L

SECTION 1. IDENTIFICATION

Product name	:	Karl Fischer reagent solution B
Number	:	000000020498
Product Use Description	:	Laboratory chemicals
Manufacturer or supplier's details	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 Seelze, 30926
For more information call	:	1-800-368-0050 +1-231-726-3171 (Monday-Friday, 9:00am-5:00pm)
In case of emergency call	:	**Medical: 1-800-498-5701 or +1-303-389-1414**
	:	**Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
	:	
	:	(24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid
Color	:	brown
Odor	:	characteristic

Classification of the substance or mixture

Classification of the substance or mixture	:	Flammable liquids, Category 2 Skin irritation, Category 2 Eye irritation, Category 2A Specific target organ toxicity - single exposure, Category 1, Eyes, Nervous system, Systemic toxicity Specific target organ toxicity - repeated exposure, Category 1

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face

protection.

Response:
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed: Call a POISON CENTER or doctor/ physician.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

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

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Methanol	67-56-1	>=50.00 - <=100.00 %

Iodine	7553-56-2	>=10.00 - <20.00 %

SECTION 4. FIRST AID MEASURES

General advice	:	First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.
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	:	After contact with skin, wash immediately with plenty of water. Call a physician immediately.
Eye contact	:	Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Call a physician immediately.
Ingestion	:	Immediately give large quantities of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	:	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
Iodine compounds

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus and protective suit.
Further information	:	Use water spray to cool unopened containers. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition.
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.
Methods and materials for containment and cleaning up	:	Ventilate the area. Do not use sparking tools. Use explosion-proof equipment. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Wear personal protective equipment. Use only in well-ventilated areas.
Advice on protection against fire and explosion	:	Keep product and empty container away from heat and sources of ignition. No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

Storage

Conditions for safe storage, including any incompatibilities	:	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. Store in original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location. Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment. Do not breathe vapours or spray mist.
Engineering measures	:	Use with local exhaust ventilation. Electrical equipment should be protected to the appropriate standard.
Eye protection	:	Safety goggles
Hand protection	:	Impervious butyl rubber 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.

Hygiene measures : Take off all contaminated clothing immediately.
Remove and wash contaminated clothing before re-use.
Keep working clothes separately.
Wash hands before breaks and immediately after handling the product.
When using do not eat, drink or smoke.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
Methanol	67-56-1	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	STEL : Short term exposure limit	(250 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	TWA : Time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values

Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	REL : Recommended exposure limit (REL):	260 mg/m3 (200 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	PEL : Permissible exposure limit	260 mg/m3 (200 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Methanol	67-56-1	SKIN_FINAL : Skin designation (Final Rule Limit applies):	Can be absorbed through the skin.	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

Methanol	67-56-1	TWA : Time weighted average	260 mg/m3 (200 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

Iodine	7553-56-2	STEL : Short term exposure limit	(0.1 ppm)	03 2014	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Vapor and aerosol.			

Iodine	7553-56-2	TWA : Time weighted average	(0.01 ppm)	03 2014	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Inhalable fraction and vapor.			

Iodine	7553-56-2	Ceil_Time : Ceiling Limit Value and Time Period (if specified) :	1 mg/m3 (0.1 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards

Iodine	7553-56-2	Ceiling : Ceiling Limit Value:	1 mg/m3 (0.1 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Iodine	7553-56-2	Ceiling : Ceiling Limit Value:	1 mg/m3 (0.1 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : brown

Odor : characteristic

pH : Note: neutral

Boiling point/boiling range : > 60 °C at 1,013 hPa
Note: The physical data is that of the main component.

Flash point : 52 °F (11 °C)
Note: The physical data is that of the main component.

Lower explosion limit : 5.5 %(V)
Note: The physical data is that of the main component.

Upper explosion limit : 31 %(V)
Note: The physical data is that of the main component.

Vapor pressure : 128 hPa
at 20 °C(68 °F)Note: The physical data is that of the main component.

Density	:	ca. 0.910 g/cm3 at 20 °C
Water solubility	:	Note: completely miscible
Ignition temperature	:	455 °C Note: The physical data is that of the main component.
Decomposition temperature	:	Note: No decomposition if used as directed.

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2) Formaldehyde Iodine compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

Methanol	:	LD50: 5,628 mg/kg Species: Rat

Acute inhalation toxicity

Methanol	:	LC50: 64000 ppm Exposure time: 4 h Species: Rat
Iodine	:	LC50: > 4.588 mg/l , dust/mist Exposure time: 4 h Species: Rat

Acute dermal toxicity

Methanol	:	LD50: 15,800 mg/kg Species: Rabbit
Iodine	:	LD50: 1,425 mg/kg Species: Rabbit, male

Skin irritation

Methanol	:	Species: Rabbit Classification: irritating Exposure time: 24 h
Iodine	:	Species: reconstructed human epidermis (RhE) Result: Irritating to skin.

Eye irritation

Methanol	:	Species: rabbit eye

Classification: irritating

Repeated dose toxicity
Methanol : Species: Rat
Application Route: Inhalation
Test substance: Methanol
Developmental Toxicity
NOAEL (maternal toxicity)
10,000 ppm
NOAEL (developmental toxicity)
5,000 ppm
Skeletal and visceral malformations.

Genotoxicity in vitro
Methanol : Note: In vitro tests did not show mutagenic effects

Genotoxicity in vivo
Methanol : Note: In vivo tests did not show mutagenic effects

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish
Methanol : LC50: 29,400 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

Iodine : LC50: 1.67 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates
Methanol : LC50: 10,000 mg/l

Exposure time: 24 h
Species: Daphnia (water flea)

Iodine : LC50: 0.55 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae
Iodine : Growth inhibition
EC50: 0.13 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201

Toxicity to bacteria
Methanol : EC50: 43,000 mg/l
Exposure time: 5 min
Species: Photobacterium phosphoreum

EC50: 40,000 mg/l
Exposure time: 15 min
Species: Photobacterium phosphoreum

EC50: 39,000 mg/l
Exposure time: 25 min
Species: Photobacterium phosphoreum

Further information on ecology

Additional ecological information
Iodine : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental

regulations.

SECTION 14. TRANSPORT INFORMATION

DOT	UN/ID No.	:	UN 1230
	Proper shipping name	:	METHANOL SOLUTION
	Class		3
	Packing group		II
	Hazard Labels		3
IATA	UN/ID No.	:	UN 1230
	Description of the goods	:	METHANOL SOLUTION
	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3 (6.1)
	Packing instruction (cargo aircraft)	:	364
	Packing instruction (passenger aircraft)	:	352
	Packing instruction (passenger aircraft)	:	Y341
IMDG	UN/ID No.	:	UN 1230
	Description of the goods	:	METHANOL SOLUTION
	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3 (6.1)
	EmS Number	:	F-E, S-D
	Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

Inventories

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)	:	All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	:	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
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302)	:	The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):
		Reportable quantity: 5000 lbs
	:	Methanol 67-56-1
SARA 302 Components	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	:	The following components are subject to reporting levels

established by SARA Title III, Section 313:
: Methanol 67-56-1

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

California Prop. 65 :

WARNING: This product can expose you to chemicals, listed below, known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Methanol 67-56-1

Massachusetts RTK	:	Methanol	67-56-1
	:	Iodine	7553-56-2
New Jersey RTK	:	Methanol	67-56-1
	:	Iodine	7553-56-2
Pennsylvania RTK	:	Methanol	67-56-1
	:	Iodine	7553-56-2

SECTION 16. OTHER INFORMATION

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

* - Chronic health hazard
Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

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. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
Previous Issue Date: 10/02/2016
Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group