

Formaldehyde, 10% fixative (TishoFix 10)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 12/13/2013 Revision date: 06/28/2017 Supersedes: 09/17/2015

Neutron[®]Pharmachemical Co. Version: 2.0 Manufacturer of Laboratory Chemical & Pharmaceutical Materi **SECTION 1: Identification** Identification 1.1. : Mixtures Product form Product name : Formaldehyde, 10% fixative (Tishofix 10) Product code · 1.3300 Recommended use and restrictions on use 1.2. Use of the substance/mixture : For laboratory and manufacturing use only. 1.3. Supplier NEUTRON PHARMACHEMICAL CO 98, 9th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran. T 021-66906732-3 - F021-6

info@neutronco.com www.neutronco.com

Emergency telephone number 1.4.

Emergency number

: CHEMTREC: 125

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Skin sensitization, Category	H317	May cause an allergic skin reaction
Carcinogenicity Category 1A	H350	May cause cancer (Inhalation)
Hazardous to the aquatic environment - Acute Hazard Category 3	H402	Harmful to aquatic life

:

Full text of H statements : see section 16

GHS Label elements, including precautionary statements 2.2.

GHS-US labeling

Hazard pictograms (GHS-US)

	GHS05 GHS07 GHS08
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H315 - Causes skin irritation H317 - May cause an allergic skin reaction H318 - Causes serious eye damage H350 - May cause cancer (Inhalation) H402 - Harmful to aquatic life
Precautionary statements (GHS-US)	 P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P264 - Wash exposed skin thoroughly after handling P272 - Contaminated work clothing should not be allowed out of the workplace P273 - Avoid release to the environment P280 - Wear protective gloves, protective clothing, eye protection, face protection P302+P352 - IF ON SKIN: Wash with plenty of soap and water P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313 - IF exposed or concerned: Get medical advice/attention P310 - Immediately call a poison center or doctor/physician P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse
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P405 - Store locked up

: None.

P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the

classification

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Water	(CAS-No.) 7732-18-5	95	Not classified
Formaldehyde, 37% w/w	(CAS-No.) 50-00-0	3.7	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Carc. 1A, H350 STOT SE 1, H370 Aquatic Acute 2, H401
Methanol	(CAS-No.) 67-56-1	0.5	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Phosphoric Acid, 85% w/w	(CAS-No.) 7664-38-2	0.5	Skin Corr. 1B, H314 Eye Dam. 1, H318
Sodium Hydroxide	(CAS-No.) 1310-73-2	0.3	Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash skin with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.
4.2. Most important symptoms and effect	ts (acute and delayed)
Symptoms/effects after inhalation	: May cause an allergic skin reaction. May cause cancer by inhalation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Nausea. Vomiting. Diarrhoea. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures	
5.1. Suitable (and unsuitable) extinguishing	ng media
Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.
5.2. Specific hazards arising from the che	emical
No additional information available	

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5.3. Special protective equipment and precautions for fire-fighters			
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.		
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.		
SECTION 6: Accidental releas	e measures		
6.1. Personal precautions, prote	6.1. Personal precautions, protective equipment and emergency procedures		
6.1.1. For non-emergency person	nel		
Protective equipment	: Safety glasses. Protective clothing. Gloves. Combined gas/dust mask with filter type A/P3.		
Emergency procedures	: Evacuate unnecessary personnel.		
6.1.2. For emergency responders			
Protective equipment	: Equip cleanup crew with proper protection.		
Emergency procedures	: Ventilate area.		
6.2. Environmental precautions			
Prevent entry to sewers and public wate	ers. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.		
6.3. Methods and material for co	ontainment and cleaning up		
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.		
6.4. Reference to other sections	i		
See Heading 8. Exposure controls and	personal protection.		
SECTION 7: Handling and sto	rage		
7.1. Precautions for safe handli	ng		
Precautions for safe handling	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing gas, mist, vapors, spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.		
Hygiene measures	: Wash exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.		
7.2. Conditions for safe storage, including any incompatibilities			
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use.		
Incompatible products	: Strong oxidizers. Strong bases. Strong acids.		
Incompatible materials : Sources of ignition. Direct sunlight.			

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Formaldehyde, 37% w/w (50-00-0)		
ACGIH	ACGIH Ceiling (mg/m ³)	0.37 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
OSHA	OSHA PEL (STEL) (ppm)	2 ppm
IDLH	US IDLH (ppm)	20 ppm
NIOSH	NIOSH REL (TWA) (ppm)	0.016 ppm
NIOSH	NIOSH REL (ceiling) (ppm)	0.1 ppm 15 min.
Methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)
OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
IDLH	US IDLH (ppm)	6000 ppm
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Methanol (67-56-1)			
NIOSH	NIOSH REL (TWA) (mg/m ³)	250 mg/m³	
NIOSH	NIOSH REL (TWA) (ppm)	200 ppm	
NIOSH	NIOSH REL (STEL) (mg/m ³)	325 mg/m ³	
NIOSH	NIOSH REL (STEL) (ppm)	250 ppm	
NIOSH	Remark (NIOSH)	Skin	
Sodium Hydroxide (1310-73	-2)		
ACGIH	ACGIH Ceiling (mg/m³)	2 mg/m ³ (Sodium hydroxide; USA; Momentary value; TLV - Adopted Value)	
OSHA	OSHA PEL (TWA) (mg/m ³)	2 mg/m ³	
IDLH	US IDLH (mg/m³)	10 mg/m ³	
NIOSH	NIOSH REL (ceiling) (mg/m ³)	2 mg/m ³	
Phosphoric Acid, 85% w/w (7664-38-2)			
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m ³	
IDLH	US IDLH (mg/m³)	1000 mg/m³	
NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³	
NIOSH	NIOSH REL (STEL) (mg/m³)	3 mg/m ³	
Water (7732-18-5)			
Not applicable			

8.2. Appropriate engineering controls

Appropriate engineering controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Protective clothing. Gas mask at concentration in the air > TLV.



Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECT	ION 9: Physical and chemical properties		
9.1.	Information on basic physical and chemical propertie		
5.1.	information on basic physical and chemical propertie	5	
Physic	I state : Liquid		
Color	: Colorless		

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: characteristic
: No data available
: 7
: No data available
: Non flammable.
: No data available
: No data available
: No data available
: Soluble in water.
: No data available
: No data available.
: No data available.

No additional information available

SECTION 10: Stability and reactivity			
10.1. Reactivity	.1. Reactivity		
No additional information available	No additional information available		
10.2. Chemical stability			
Stable under normal conditions.			
10.3. Possibility of hazardous reactions			
Not established.			
10.4. Conditions to avoid			
Direct sunlight. Extremely high or low temperature	Direct sunlight. Extremely high or low temperatures.		
10.5. Incompatible materials			
Strong oxidizers. Strong acids. Strong bases.			
10.6. Hazardous decomposition products			
Phosphorus oxides. Carbon monoxide. Carbon dioxide.			
SECTION 11: Toxicological informatio	n		
11.1. Information on toxicological effects	11.1. Information on toxicological effects		
Likely routes of exposure	: Inhalation; Skin and eye contact		
Acute toxicity	Not classified		
Formaldehyde, 37% w/w (50-00-0)			
LD50 oral rat	500 mg/kg		
ATE US (oral)	500 mg/kg body weight		
ATE US (dermal)	2000 mg/kg body weight		
ATE US (vapors)	0.578 mg/l/4h		

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Methanol (67-56-1)		
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)	
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)	
Sodium Hydroxide (1310-73-2)		
ATE US (dermal)	1350 mg/kg body weight	
Water (7732-18-5)		
LD50 oral rat	≥ 90000 mg/kg	
ATE US (oral)	90000 mg/kg body weight	
Skin corrosion/irritation	: Causes skin irritation.	
	pH: 7	
Serious eye damage/irritation	: Causes serious eye damage.	
	pH: 7	
Respiratory or skin sensitization	: May cause an allergic skin reaction.	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: May cause cancer (Inhalation).	
Formaldehyde, 37% w/w (50-00-0)		
IARC group	1 - Carcinogenic to humans	
Reproductive toxicity	: Not classified	
Specific target organ toxicity – single exposure	: Not classified	
Specific target organ toxicity – repeated	: Not classified	
exposure		
Aspiration hazard	: Not classified	
•		
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.	
Symptoms/effects after inhalation	: May cause an allergic skin reaction. May cause cancer by inhalation.	
Symptoms/effects after skin contact	: Causes skin irritation.	
Symptoms/effects after eye contact	: Causes serious eye damage.	
Symptoms/effects after ingestion	: Nausea. Vomiting. Diarrhoea. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.	

SECTION 12: Ecological information		
12.1. Toxicity		
Ecology - water	: Harmful to aquatic life.	
Formaldehyde, 10% v/v, Buffered		
EC50 Daphnia 1	54 mg/l	
Formaldehyde, 37% w/w (50-00-0)		
LC50 fish 1	41 mg/l (LC50; 96 h)	
EC50 Daphnia 1	14.7 mg/l (EC50; 24 h)	
EC50 Daphnia 2	2 mg/l	
Threshold limit algae 1	2.5 mg/l (EC0; 192 h)	
Methanol (67-56-1)		
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)	
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)	
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)	
Sodium Hydroxide (1310-73-2)		
LC50 fish 1	45.4 mg/l (LC50; Other; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value)	

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Phosphoric Acid, 85% w/w (7664-38-2)	
LC50 fish 1	138 mg/l (LC50)
2.2. Persistence and degradability	
Formaldehyde, 10% v/v, Buffered	
Persistence and degradability	Not established.
Formaldehyde, 37% w/w (50-00-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available. No test data on
	mobility of the components available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.64 g O ₂ /g substance
Chemical oxygen demand (COD)	1.06 g O ₂ /g substance
ThOD	1.068 g O ₂ /g substance
BOD (% of ThOD)	0.6 (5 days; Literature study)
Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O₂/g substance
BOD (% of ThOD)	0.8 (Literature study)
Sodium Hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Phosphoric Acid, 85% w/w (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Weter (7722 40 5)	
Water (7732-18-5) Persistence and degradability	Not established.
	NUL ESTADIISTICU.
2.3. Bioaccumulative potential	
Formaldehyde, 10% v/v, Buffered	
Bioaccumulative potential	Not established.
Formaldehyde, 37% w/w (50-00-0)	
Log Pow	-0.78 - 0.0
Bioaccumulative potential	Bioaccumulation: not applicable.
Methanol (67-56-1)	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow Biogeoumulative potential	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Sodium Hydroxide (1310-73-2)	No biogeoumulation data available
Bioaccumulative potential	No bioaccumulation data available.
Phosphoric Acid, 85% w/w (7664-38-2)	Not biococumulativo
Bioaccumulative potential	Not bioaccumulative.
Water (7732-18-5)	
Bioaccumulative potential	Not established.

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12.4. Mobility in soil				
Formaldehyde, 37% w/w (50-00-0)				
Ecology - soil Toxic to flora.				
Methanol (67-56-1)				
Surface tension 0.023 N/m (20 °C)				
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value			
12.5. Other adverse effects				
Effect on the global warming	: No known effects from this product.			
GWPmix comment	: No known effects from this product.			
ther information : Avoid release to the environment.				
SECTION 13: Disposal considerati	ions			
13.1. Disposal methods				
Waste disposal recommendations	 Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations. 			
Ecology - waste materials	: Avoid release to the environment.			
SECTION 14: Transport information	on			
Department of Transportation (DOT) In accordance with DOT				

Not regulated

SECTION 15: Regulatory information				
15.1. US Federal regulations				
Formaldehyde, 10% v/v, Buffered				
SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation			

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Methanol		CAS-No. 67-56-1	0.5%	
Formaldehyde, 37% w/w (50-00-0)				
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb			
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard			
SARA Section 313 - Emission Reporting	0.1 %			
Methanol (67-56-1)				
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb			
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard			
Sodium Hydroxide (1310-73-2)				
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 ІЬ			
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard			
Phosphoric Acid, 85% w/w (7664-38-2)				
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb			
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15.2. International regulations CANADA Formaldehyde, 37% w/w (50-00-0) Listed on the Canadian DSL (Domestic Substances List) Methanol (67-56-1) Listed on the Canadian DSL (Domestic Substances List) Sodium Hydroxide (1310-73-2) Listed on the Canadian DSL (Domestic Substances List) Phosphoric Acid, 85% w/w (7664-38-2) Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Formaldehyde, 37% w/w (50-00-0)

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

Formaldehyde, 37% w/w (50-00-0)					
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	
Yes	Yes	No	No	40 µg/day	
Methanol (67-56-1)					
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	
No	Yes	No	No		

SECTION 16: Other information	
Revision date	: 06/28/2017
Other information	: None.

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Full text of H-phrases: see section 16:					
	H225	Highly flammable liquid and vapor			
	H226	Flammable liquid and vapor			
	H301	Toxic if swallowed			
	H302	Harmful if swallowed			
	H311	Toxic in contact with skin			
	H312	Harmful in contact with skin			
	H314	Causes severe skin burns and eye damage			
H315 Causes skin irritation		Causes skin irritation			
	H317	May cause an allergic skin reaction			
	H318	Causes serious eye damage			
	H330	Fatal if inhaled			
	H331	Toxic if inhaled			
	H350	May cause cancer			
	H370	Causes damage to organs			
	H401	Toxic to aquatic life			
	H402	Harmful to aquatic life			
NFF	PA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.			
NFF	PA fire hazard	: 1 - Materials that must be preheated before ignition can			
NFF	PA reactivity	 occur. O - Material that in themselves are normally stable, even under fire conditions. 			
	ard Rating				
Health		 2 Moderate Hazard - Temporary or minor injury may occur * - Chronic (long-term) health effects may result from repeated overexposure 			
Flar	nmability	 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB) 			
Phy	sical	 O Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives. 			
Per	sonal protection	: H			
		H - Splash goggles, Gloves, Synthetic apron, Vapor respirator			

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