

Creation Date 24-Mar-2010

Revision Date 11-Feb-2013

Revision Number 2

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Name** 10% Neutral Buffered Formalin  
**Cat No.** 5701, 5705, 5705EXL, 5725, 5730, 5735, 5755, 9400-1, 9400-5, 9400-55, 51201, 51401, 51401 PL, 51601, 51601 PL, 51901, 53151, 53301, 53601, 53901, 56201, 56401, 56601, 56901, 59201, 59201G, 59401, 59401R, 59401PMC, 59601, 59601PMC, 59901, 511201, 531201, 531801, 534801, 561201, 591201, 591201PMC, 591801, 594801, 599601, 5912001, C4320-7.5B, C4320-15B, C4320-60B, C4320-90B, C4320-101, C4320-105, C4320-180B, C4320-450B, LC-0015, LC-0020, LC-0040, LC-0060, LC-0090, LC-0120, RBH-0180-S  
**Synonyms** No information available.  
**Recommended Use** Laboratory chemicals

**Company** Richard Allan Scientific  
 A Subsidiary of Thermo Fisher Scientific  
 4481 Campus Drive  
 Kalamazoo, MI 49008  
 Tel: (800) 522-7270

**Emergency Telephone Number** Chemtrec US: (800) 424-9300  
 Chemtrec EU: 001 (202) 483-7616

## 2. HAZARDS IDENTIFICATION

The product is classified as dangerous in accordance with Directive 1999/45/EC or 67/548/EEC.

Xn



### R-phrases(s)

R40 - Limited evidence of a carcinogenic effect  
 R43 - May cause sensitization by skin contact

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Haz/Non-haz

Component	Weight %	EC-No.	67/548/EEC Classification
Water 7732-18-5	94 - 95	EEC No 231-791-2	-
Formaldehyde 50-00-0	3.5 - 4	200-001-8	T; R23/24/25 C; R34 Carc.Cat.3; R40 R43

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Methyl alcohol 67-56-1	1.2	EEC No. 200-659-6	F; R11 T; R23/24/25-39/23/24/25
Sodium phosphate dibasic 7558-79-4	< 1	EEC No. 231-448-7	-
Sodium phosphate, monobasic 7558-80-7	< 1	EEC No. 231-449-2	-

**For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16****4. FIRST AID MEASURES**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Notes to Physician</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Flash Point** > 93.3°C / 199.9°F**Method -** No information available.**Autoignition Temperature** No information available.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.
<b>Environmental Precautions</b>	Should not be released into the environment.
<b>Methods for Containment and Clean Up</b>	Soak up with inert absorbent material Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

<b>Handling</b>	Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Specific use(s)</b>	No information available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure limits

Component	European Union	The United Kingdom	Belgium	France	Spain	Germany
Formaldehyde		STEL: 2 ppm 15 min STEL: 2.5 mg/m <sup>3</sup> 15 min TWA: 2 ppm 8 hr TWA: 2.5 mg/m <sup>3</sup> 8 hr		VME: 0.5 ppm 8 heures. VLCT: 1 ppm	VLA-EC: 0.3 ppm 15 minutos VLA-EC: 0.37 mg/m <sup>3</sup> 15 minutos	MAK: 0.3 ppm 8 Stunden. MAK: 0.37 mg/m <sup>3</sup> 8 Stunden. no irritation should occur during mixed exposure Peak: 0.6 ppm Peak: 0.74 mg/m <sup>3</sup>
Methyl alcohol	TWA: 200 ppm 8 hr TWA: 260 mg/m <sup>3</sup> 8 hr Skin	WEL - TWA: 200 ppm TWA; 266 mg/m <sup>3</sup> TWA WEL - STEL: 250 ppm STEL; 333 mg/m <sup>3</sup> STEL	TWA: 200 ppm 8 uren TWA: 266 mg/m <sup>3</sup> 8 uren STEL: 250 ppm 15 minuten STEL: 333 mg/m <sup>3</sup> 15 minuten Huid	VME: 200 ppm 8 heures. restrictive limit VME: 260 mg/m <sup>3</sup> 8 heures. restrictive limit VLCT: 1000 ppm VLCT: 1300 mg/m <sup>3</sup> Skin	Skin VLA-ED: 200 ppm 8 horas VLA-ED: 266 mg/m <sup>3</sup> 8 horas	200 ppm TWA; 270 mg/m <sup>3</sup> TWA Skin absorber

Component	Italy	Portugal	The Netherlands	Finland	Austria
Formaldehyde		Ceiling: 0.3 ppm	STEL: 0.5 mg/m <sup>3</sup> 15 minuten TWA: 0.15 mg/m <sup>3</sup> 8 uren	TWA: 0.3 ppm 8 tunteina TWA: 0.37 mg/m <sup>3</sup> 8 tunteina STEL: 1 ppm 15 minuutteina STEL: 1.2 mg/m <sup>3</sup> 15 minuutteina Ceiling: 1 ppm Ceiling: 1.2 mg/m <sup>3</sup>	Skin STEL: 0.5 ppm 15 Minuten STEL: 0.6 mg/m <sup>3</sup> 15 Minuten TWA: 0.5 ppm 8 Stunden TWA: 0.6 mg/m <sup>3</sup> 8 Stunden Ceiling: 0.5 ppm Ceiling: 0.6 mg/m <sup>3</sup>
Methyl alcohol	TWA: 200 ppm 8 ore. TWA: 260 mg/m <sup>3</sup> 8 ore. Skin	STEL: 250 ppm 15 minutos TWA: 200 ppm 8 horas Pele	Skin STEL: 520 mg/m <sup>3</sup> 15 minuten TWA: 260 mg/m <sup>3</sup> 8 uren	TWA: 200 ppm 8 tunteina TWA: 270 mg/m <sup>3</sup> 8 tunteina STEL: 250 ppm 15 minuutteina STEL: 330 mg/m <sup>3</sup> 15 minuutteina Skin	Skin STEL: 800 ppm 15 Minuten STEL: 1040 mg/m <sup>3</sup> 15 Minuten TWA: 200 ppm 8 Stunden TWA: 260 mg/m <sup>3</sup> 8 Stunden

Component	Switzerland	Poland	Norway	Ireland	Denmark	Australia
Formaldehyde	STEL: 0.6 ppm 15 Minuten STEL: 0.74 mg/m <sup>3</sup> 15 Minuten MAK: 0.3 ppm 8 Stunden MAK: 0.37 mg/m <sup>3</sup> 8 Stunden	NDSch: 1 mg/m <sup>3</sup> 15 minutach TWA: 0.5 mg/m <sup>3</sup> 8 godzinach Skóra	TWA: 0.5 ppm 8 timer TWA: 0.6 mg/m <sup>3</sup> 8 timer STEL: 1.5 ppm 15 minutter. STEL: 1.8 mg/m <sup>3</sup> 15 minutter. Ceiling: 1 ppm Ceiling: 1.2 mg/m <sup>3</sup>	TWA: 2 ppm 8 hr. TWA: 2.5 mg/m <sup>3</sup> 8 hr. STEL: 2 ppm 15 min STEL: 2.5 mg/m <sup>3</sup> 15 min	Ceiling: 0.3 ppm Ceiling: 0.4 mg/m <sup>3</sup>	STEL: 2 ppm STEL: 2.5 mg/m <sup>3</sup> TWA: 1 ppm TWA: 1.2 mg/m <sup>3</sup>

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Component	Switzerland	Poland	Norway	Ireland	Denmark	Australia
Methyl alcohol	Skin STEL: 800 ppm 15 Minuten STEL: 1040 mg/m <sup>3</sup> 15 Minuten MAK: 200 ppm 8 Stunden MAK: 260 mg/m <sup>3</sup> 8 Stunden	NDSch: 300 mg/m <sup>3</sup> 15 minutach TWA: 100 mg/m <sup>3</sup> 8 godzinach Skóra	TWA: 100 ppm 8 timer TWA: 130 mg/m <sup>3</sup> 8 timer STEL: 150 ppm 15 minutter. STEL: 162.5 mg/m <sup>3</sup> 15 minutter. Skin	TWA: 200 ppm 8 hr. TWA: 260 mg/m <sup>3</sup> 8 hr. Skin	TWA: 200 ppm 8 timer TWA: 260 mg/m <sup>3</sup> 8 timer Skin	STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> TWA: 200 ppm TWA: 262 mg/m <sup>3</sup>

## Occupational exposure controls

### Engineering Measures

Use only under a chemical fume hood Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

### Personal Protective Equipment

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Eye Protection

Tightly fitting safety goggles

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Hand Protection

Protective gloves

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical State

Liquid

### Appearance

Clear Colorless

### Odor

Characteristic formaldehyde

### pH

7

### Boiling Point/Range

Not applicable

### Melting Point/Range

No data available

### Flash Point

> 93.3°C / 199.9°F

### Molecular Formula

Solution

## 10. STABILITY AND REACTIVITY

### Stability

Stable under normal conditions.

### Conditions to Avoid

Incompatible products. Heat, flames and sparks.

### Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases

### Hazardous Decomposition Products

Formaldehyde, Methanol, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Hazardous Reactions .

None under normal processing..

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Formaldehyde	500 mg/kg ( Rat )		0.578 mg/L ( Rat ) 4 h
Methyl alcohol	5628 mg/kg ( Rat )	15800 mg/kg ( Rabbit )	64000 ppm ( Rat ) 4 h 83.2 mg/L ( Rat ) 4 h
Sodium phosphate dibasic	17 g/kg ( Rat )		
Sodium phosphate, monobasic	8290 mg/kg ( Rat )	7940 mg/kg ( Rabbit )	

### Chronic Toxicity

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	IARC	UK
Formaldehyde	Group 1	Cat 3

### IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

**Sensitization** May cause sensitization by skin contact.

**Neurological Effects** No information available.

**Mutagenic Effects** Mutagenic effects have occurred in humans.

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** Developmental effects have occurred in experimental animals.

**Teratogenicity** Teratogenic effects have occurred in experimental animals.

**Target Organs** Skin, Liver, Kidney, spleen, Blood.

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.. The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Formaldehyde		Leuciscus idus: LC50 = 15 mg/L 96h		EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h
Methyl alcohol		Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	EC50 > 10000 mg/L 24h

**Persistence and Degradability** No information available

**Bioaccumulative Potential** No information available.

**Mobility**

Component	log Pow
Formaldehyde	-0.35
Methyl alcohol	-0.74

### 13. DISPOSAL CONSIDERATIONS

**Waste from Residues / Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

**Contaminated Packaging**

Empty containers should be taken to local recyclers for disposal

### 14. TRANSPORT INFORMATION

**IMDG/IMO**

Not regulated

**ADR**

Not regulated

**IATA**

Not regulated

### 15. REGULATORY INFORMATION

The product is classified as dangerous in accordance with Directive 1999/45/EC or 67/548/EEC

**Labelling**

**Symbol(s)**  
Xn

Xn - Harmful



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### R-phrases(s)

R40 - Limited evidence of a carcinogenic effect

R43 - May cause sensitization by skin contact

### S-phrases(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S51 - Use only in well-ventilated areas.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

### International Inventories

All of the components in the product are on the following Inventory lists:

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Water	231-791-2	-		X	X	-	X	-	X	X	X
Formaldehyde	200-001-8	-		X	X	-	X	X	X	X	X
Methyl alcohol	200-659-6	-		X	X	-	X	X	X	X	X
Sodium phosphate dibasic	231-448-7	-		X	X	-	X	X	X	X	X
Sodium phosphate, monobasic	231-449-2	-		X	X	-	X	X	X	X	X

## 16. OTHER INFORMATION

### Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R34 - Causes burns

R36 - Irritating to eyes

R40 - Limited evidence of a carcinogenic effect

R43 - May cause sensitization by skin contact

R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

R39/23/24/25 - Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

Prepared By	Regulatory Affairs
Creation Date	24-Mar-2010
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Revision Summary	"****", and red text indicates revision
Restrictions on use	No information available.
Training advice	No information available.
Literary reference	No information available.

### Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.



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**End of Safety Data Sheet**