

Neutral buffered formalin (NBF). Prefilled container safe system made according to UE normative no gas release  
Safety data sheet according to 1907/2006/EC, Article 31. Modified according to rules CE 453/2010  
Printing date 01.06.2017. Version number 3. Revision: 01.06.2017  
Material safety data sheet code 07-XXX-XX-S  
Product code 07-XXX-XX-S  
Generic EU MSDS - no country specific data - No OEL data  
Package: All Type  
NBF CND code W01030705. Containers CND code W05020199  
Stability of products properly conserved at 15-25°C 24 months.

\* 1 Identification of the substance preparation and of the company undertaking  
Commercial name. Neutral buffered formalin (NBF). Histology fixative. Please note, the indication 10% is a commercial indication and do not represent the exact concentration of the finished products, that should be intended as a 4% oxidometric titre.

Manufacturer – supplier: Histo-Line Laboratories S.r.l.  
Via G. Di Vittorio, 30 - 20048 Pantigliate (MI), Italy  
Tel: +39 0255230061 Fax: +39 0255213764  
www.histoline.com

in case of emergency UE number		112
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\* 2 Hazards identification

Classification system. The product has to be labelled due to the calculation procedure of the "General Classification guideline for substances of the EU", DIR. 67/548/EC, in the latest valid version, and of the "General Classification guideline for Preparations of the EU", DIR. 99/45/EC, in the latest valid version.



Warning Carc. 1B H350 - may cause cancer



Warning Skin Sens. 1

Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS08



GHS07

Signal word Warning

Hazard-determining components of labelling: formaldehyde

H317 - May cause an allergic skin reaction

H351 - Suspected of causing cancer

Prevention:

P261 Avoid breathing dust, fume, gas, mist, vapours, spray.

P280 Wear protective gloves, protective clothing, eye protection, face protection.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

Storage. P405 Store locked up.

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**Disposal:**



P501 Dispose of contents, container in accordance with local, regional, national, international regulations.

**\* 3 Composition information on ingredients**

**Chemical characterization**

Description: mixture made by the following substances

**Dangerous components:**

CAS n°	component	classification	description before dilution	pictogram's	%
732-18-5	distilled water				80-90%
64742-49-0	paraffin	H226	Flam. Liq. 2		≤0,5-1%
50-00-0	formaldehyde	H350 H314 H317	Carc 1B Acute Tox. 3		2,5-10%
67-56-1	methyl alcohol	H225 H301 H370	Acute Tox. 3 STOT SE 1,		≤2,5%

**\* 4 First-aid measures**

**After inhalation**

In case of unconsciousness place patient stably in side position for transportation. Supply fresh air and to be sure call for a doctor. After skin contact. Call a doctor immediately. Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse. After eye contact: rinse opened eye for several minutes under running water. After swallowing: do not induce vomiting; call for medical help immediately. Most important symptoms and effects, both acute and delayed no further relevant information available. Information for doctor: show the doctor this material safety data sheet. Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

**\* 5 Fire-fighting measures**

General information. As in any fire, wear a self-contained breathing apparatus in pressure-demand, msha/niosh (approved or equivalent), and full protective gear. Suitable extinguishing agents: CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Protective equipment. In closed rooms, wear a self-contained breathing apparatus. Do not inhale gases in case of fire or combustion

**\* 6 Accidental release measures**

General information. Use proper personal protective equipment as indicated in section 8. Person-related safety precautions. If vapours aerosols are formed, use personal protective equipment. Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation. Measures for environmental protection. Dilute with plenty of water after collecting the liquid. Do not allow to penetrate the ground soil. Do not allow to enter sewers surface or ground water. In case of seepage into the ground, inform responsible authorities. Measures for cleaning collecting. Collect the liquid with vacuum in a suitable container and absorb the remained with a porous material, (diatomite, acid binders, universal binders, etc). Ensure adequate ventilation. Dispose contaminated material as waste according to item 13. Additional information. See section 7 for information on safe handling. See section 8 for information on personal protection equipment. See section 13 for disposal information.

**\* 7 Handling and storage**

Handling information for safe handling: ensure good ventilation exhaustion at the workplace. Information about fire - and explosion protection: no special measures required. Storage: requirements to be met by storerooms and receptacles: store in cool place. Keep container tightly closed in a dry and well-ventilated place. Information about storage in one common storage facility: not required. Further information about storage conditions: none.

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\* 8 Exposure controls/personal protection

Additional information about design of technical facilities: no further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

50-00-0 formaldehyde

WEL (Great Britain)	Short-term value:	2.5 mg/m <sup>3</sup> , 2 ppm
	Long-term value:	2.5 mg/m <sup>3</sup> , 2 ppm
PEL (USA)	Short-term value:	2 ppm
	Long-term value:	0.75 ppm
	See 29 CFR 1910.1048	
REL (USA)	Short-term value:	C 0.1* ppm
	Long-term value:	0.016 ppm
	*15-min	
TLV (USA)	Short-term value:	C 0.37 mg/m <sup>3</sup> , C 0.3 ppm
	SEN	
Methyl alcohol (≤2.5-10%)		
WEL (Great Britain)	Short-term value:	333 mg/m <sup>3</sup> , 250 ppm
	Long-term value:	266 mg/m <sup>3</sup> , 200 ppm
	Sk	
IOELV (European Union)	Long-term value:	260 mg/m <sup>3</sup> , 200 ppm
	Skin	

DNELs

50-00-0 Formaldeide..%

Oral	LD50	>200 mg/kg (rat)
Methyl alcohol		
Oral	LD50	5628 mg/kg (rat)
Inhalative	LC50/4 h	81.9 mg/L (rat)

PNECs

Methyl alcohol

EC50 >500 mg/L (algae)

Additional information: The lists valid during the making were used as basis.

Exposure controls. Personal protective equipment: General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Respiratory protection



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device

Protection of hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.



Rubber gloves.

Rubber gloves. Material of gloves. The glove material has to be impermeable and resistant to the product the substance the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Eye protection: goggles recommended during refilling; body protection: choose body protection according to the amount and concentration of the dangerous substance at the work place.

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\* 9 Physical and chemical properties

Molecular weight	
Form	fluid
Colour	colourless
Odour	pungent
Change in condition	
Melting point-melting range	undetermined
Boiling point-boiling range	undetermined
Flash point	not applicable
Flammability (solid, gaseous)	not applicable
Ignition temperature:	
Decomposition temperature	Not determined
Self-igniting	product is not self igniting.
Danger of explosion	product does not present an explosion hazard.
Explosion limits:	
Lower	not determined
Upper	not determined
Vapour pressure at 20°C	23 hPa
Density at 20°C	1 g/cm <sup>3</sup>
Relative density	not determined
Vapour density	not determined
Evaporation rate	not determined
Solubility in-miscibility with water	fully miscible
Partition coefficient (n-octanol-water)	not determined
Viscosity	
Dynamic	not determined
Kinematic	not determined
Organic solvents	4.4 %
Water	+/- 85.0-86.0 %
Solids content	0.1 %
Other information	No further relevant information available.

\* 10 Stability and reactivity

Chemical stability. Thermal decomposition - conditions to be avoided: No decomposition if used according to specifications. Possibility of hazardous reactions No dangerous reactions known. Conditions to avoid No further relevant information available. Incompatible materials: No further relevant information available. Hazardous decomposition products: No decomposition products known, more dangerous than the product as such.

\* 11 Toxicological information

Information on toxicological effects. Acute toxicity. Primary irritant effect: on the skin: no irritant effect. On the eye: no relevant irritating effects. Ingestion: it can be harmful if swallowed. Inhalation: may be harmful if inhaled. May cause respiratory tract irritation. Sensitization: sensitization possible through skin contact. Other information (about experimental toxicology): no more relevant data available. Additional toxicological information: the product shows the following dangers according to the calculation method of the General EU Classification Guidelines for preparations as issued in the latest version: irritant. There is a suspect of carcinogenic activity: the animal experiments can not be easy extrapolated to humans. However handle the product with the right care. CMR effects (carcinogenity, mutagenicity and toxicity for reproduction). Carc. 2

\* 12 Ecological information

Toxicity. Aquatic toxicity: no further relevant information available. Persistence and degradability no further relevant information available. Method ecological information not available bioaccumulative potential no further relevant information available. Mobility in soil no further relevant information available.

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Additional ecological information: General notes: water hazard class 1 (German Regulation) (self-assessment):  
slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water  
course or sewage system.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

\* 13 Disposal considerations

Waste treatment methods. Recommendation. Must not be disposed together with household garbage. Do not allow  
product to reach sewage system. Reutilise if possible or contact a waste processors for recycling or safe disposal.  
Waste disposal key. The European union does not establish uniform rules for the disposal of chemical waste, which  
are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case,  
you should contact the relevant authorities, or those companies legally authorized for elimination of waste  
2001/573/EC: Council Decision of 23 July 2001 amending the list of wastes contained in Decision 2000/532/EC.  
Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste. Uncleaned packaging.  
The containers and packing materials contaminated with dangerous substances or preparations, have the same  
treatment products. Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on  
packaging and packaging waste. Recommendation: disposal must be made according to official regulations.  
Packaging that may not be cleansed are to be disposed of in the same manner as the product. Recommended  
cleansing agents: water, if necessary together with cleansing agents

\* 14 Transport information

UN-Number	-
ADR, ADN, IMDG, IATA	Void
UN proper shipping name	-
ADR, ADN	Void
IMDG, IATA	N.A.
Transport hazard class(es)	
ADR, ADN, IMDG, IATA	
Class	Void
Packing group	
ADR, IMDG, IATA	Void
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable
UN "Model Regulation"	-

\* 15 Regulatory information

Safety, health and environmental regulations - legislation specific for the substance or mixture. Labelling according  
to Regulation (EC) No 1272/2008. The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS08



GHS07

H351 - Suspected of causing cancer

H317 - May cause an allergic skin reaction.

National regulations: Technical instructions (air): Class

share in % I

5,0

Water hazard class: water hazard class 2 (self-assessment): hazardous for water:

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\* 16 Other information

Those information are based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H301 toxic if swallowed.  
H311 toxic in contact with skin.  
H314 causes severe skin burns and eye damage.  
H317 may cause an allergic skin reaction.  
H331 toxic if inhaled.  
H351 suspected of causing cancer.  
H370 causes damage to organs

Container information

Containers made whit High Density Polyethylene (HDPE). The polyethene (more commonly known as polyethylene) is the simplest of the synthetic polymers and is the most common among the plastics. Is often referred to by the initials "EP", as for example using "PS" for polystyrene or "PVC" for polyvinyl chloride. It has the chemical formula  $(-C_2H_4-)_n$  where n can be up to several million. The chains may be of variable length and more or less branched. Polyethylene is a thermoplastic resin, is presented as a transparent solid (amorphous form) or white (crystalline form) with excellent insulating properties and chemical stability. The high-density polyethylene (often abbreviated as HDPE, English (high-density polyethylene) is a thermoplastic polymer derived from petroleum. Commonly recycled.

Waste code



Manufactured by third parties on Histo-Line technical specifications  
Responsible for marketing and distributor: Histo-Line Laboratories Srl.  
Latex free

Specifications.

The reusable containers are: shockproof, with lid anti-spill made in accordance with UE norm, the bottom of the container is deeply knurled to increase the grip. Supplied in cardboard box, sufficient to ensure the integrity and protection from dust and dirt. Given the type of product, you do not believe you need to set a date of expiry, when the product is kept intact (store at room temperature).

References

ECDIN (Environmental Chem. Data and Information Network)  
IUCLID (International Uniform Chemical Information Database)  
NIOSH - Registry of Toxic Effects of Chemical Substances  
Roth - Wassergefährdende Stoffe

Verschueren - Handbook of Environmental Data on Organic Chemicals

ChemDAT - Safety Data Sheets from E.Merck on CD-ROM

Merian - Metals and their compounds in the environment

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer  
(Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association



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GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL: Derived No-Effect Level (REACH)  
Flam. Liq. 2: Flammable liquids, Hazard Category 2  
Acute Tox. 3: Acute toxicity, Hazard Category 3  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
Muta. 2: Germ cell mutagenicity, Hazard Category 2  
Carc. 1B: Carcinogenicity, Hazard Category 1B  
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1

#### Sources

DIR. 67/548/EC, in the latest valid version. DIR. 1999/45/EC, in the latest valid version.  
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH.  
Globally Harmonized System, GHS. Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version. ADR 2011

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Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites  
SU9 Manufacture of fine chemicals  
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)  
SU24 Scientific research and development

Product category

PC19 Intermediate  
PC20 Products such as ph-regulators, flocculants, precipitants, neutralization agents  
PC21 Laboratory chemicals  
PC29 Pharmaceuticals  
PC39 Cosmetics, personal care products  
PC40 Extraction agents

Process category

PROC1 Use in closed process, no likelihood of exposure  
PROC2 Use in closed, continuous process with occasional controlled exposure  
PROC3 Use in closed batch process (synthesis or formulation)  
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises  
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)  
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
PROC15 Use as laboratory reagent

Environmental release category

ERC1 Manufacture of substances  
ERC2 Formulation of preparations  
ERC4 Industrial use of processing aids in processes and products, not becoming part of articles  
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)  
Application of the substance - the mixture Chemical products for laboratory