



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/27/2015

Version 1.3

SECTION 1. Identification

Product identifier

Product number	101736
Product name	OSTEOMOLL® rapid decalcifier-solution for Histology

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis, In vitro diagnostic reagent
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Corrosive to Metals, Category 1, H290
Acute toxicity, Category 4, Oral, H302
Skin corrosion, Category 1B, H314
Serious eye damage, Category 1, H318
Skin sensitization, Category 1, H317
Carcinogenicity, Category 2, H351
Specific target organ systemic toxicity - single exposure, Category 1, Eyes, H370
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word

Danger

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

Hazard Statements

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H370 Causes damage to organs (Eyes).

Precautionary Statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original container.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P321 Specific treatment (see supplemental first aid instructions on this label).
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P405 Store locked up.
P406 Store in corrosive resistant stainless steel container with a resistant inliner.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

hydrochloric acid ($\geq 10\%$ - $< 30\%$)

7647-01-0

Exact percentages are being withheld as a trade secret.

formaldehyde ($\geq 1\%$ - $< 5\%$)

50-00-0

Exact percentages are being withheld as a trade secret.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

methanol (>= 1 % - < 5 %)

67-56-1

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Consult a physician.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Allergic reactions, narcosis, blindness, Cough, Shortness of breath

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

The following applies to aldehydes in general: irritations after contact with eyes and skin.

Mucosal irritations, coughing, and dyspnoea after inhalation.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Hydrogen chloride gas

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H⁺, Art. No. 101595).
Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>hydrochloric acid 7647-01-0</i>			
ACGIH	Ceiling Limit Value:	2 ppm	
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	5 ppm 7 mg/m ³	
OSHA_TRANS	Ceiling Limit Value:	5 ppm 7 mg/m ³	
Z1A	Ceiling Limit Value:	5 ppm 7 mg/m ³	

formaldehyde 50-00-0

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

ACGIH	Ceiling Limit Value:	0.3 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	0.016 ppm	
	Recommended exposure limit (REL):	0.016 ppm	Expressed as: as formaldehyde
	Ceiling Limit Value and Time Period (if specified):	0.1 ppm	Ceiling Limit Value 15-min
	Ceiling Limit Value and Time Period (if specified):	0.1 ppm	Ceiling Limit Value 15-min Expressed as: as formaldehyde
Z1A	Time Weighted Average (TWA):	0.75 ppm	
	Short Term Exposure Limit (STEL):	2 ppm	
<i>methanol 67-56-1</i>			
ACGIH	Time Weighted Average (TWA):	200 ppm	
	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
NIOSH/GUIDE	Recommended exposure limit (REL):	200 ppm 260 mg/m ³	
	Skin designation:		Can be absorbed through the skin.
	Short Term Exposure Limit (STEL):	250 ppm 325 mg/m ³	
OSHA_TRANS	PEL:	200 ppm 260 mg/m ³	
Z1A	Time Weighted Average (TWA):	200 ppm 260 mg/m ³	
	Skin designation (Final Rule Limit applies):		Can be absorbed through the skin.
	Short Term Exposure Limit (STEL):	250 ppm 325 mg/m ³	

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	blue
Odor	stinging
Odor Threshold	No information available.
pH	< 1 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.10 g/ml at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Corrosion	May be corrosive to metals.

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

carbides, lithium silicide, Fluorine

Generates dangerous gases or fumes in contact with:

Aluminum, hydrides, Metals, strong alkalis, Sulfides

Exothermic reaction with:

Amines, potassium permanganate, salts of oxyhalogenic acids, semimetallic oxides, semimetallic hydrogen compounds, vinylmethyl ether

Conditions to avoid

Heating.

Incompatible materials

Metals, metal alloys

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Target Organs

Gastro-intestinal system

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

Eyes

Skin

Respiratory system

Cornea

Lungs

head

Respiratory organs

Central nervous system

gastrointestinal tract

Acute oral toxicity

Acute toxicity estimate: 1,912 mg/kg

Calculation method

absorption

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate: 1,912 mg/kg

Calculation method

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract.

Acute toxicity estimate: > 20 mg/l; 4 h

Calculation method

Acute dermal toxicity

absorption

Acute toxicity estimate : > 2,000 mg/kg

Calculation method

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye irritation.

Sensitization

Mixture may cause an allergic skin reaction.

CMR effects

Carcinogenicity:

Evidence of a carcinogenic effect.

Specific target organ systemic toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

Carcinogenicity

IARC

Group 1: Carcinogenic to humans

formaldehyde

50-00-0

OSHA

formaldehyde

50-00-0

NTP

Anticipated carcinogen.

formaldehyde

50-00-0

ACGIH

A2: Suspected human carcinogen

formaldehyde

50-00-0

Further information

Systemic effects:

narcosis

The following applies to aldehydes in general: irritations after contact with eyes and skin.

Mucosal irritations, coughing, and dyspnoea after inhalation.

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Ingredients

hydrochloric acid

No information available.

formaldehyde

Acute oral toxicity

LD50 Rat: 100 mg/kg (Lit.)

Acute inhalation toxicity

Acute toxicity estimate: 3.1 mg/l; vapor

Expert judgment

Acute dermal toxicity

Acute toxicity estimate : 300.1 mg/kg

Expert judgment

methanol

Acute oral toxicity

LDLO human: 143 mg/kg (RTECS)

LD50 Rat: 5,628 mg/kg (IUCLID)

Acute inhalation toxicity

LC50 Rat: 85.26 mg/l; 4 h (IUCLID)

Acute dermal toxicity

LD50 Rabbit: ca. 17,100 mg/kg (External MSDS)

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

Sensitization

Sensitization test: Guinea pig
Result: negative
(IUCLID)

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Result: negative
(IUCLID)

Genotoxicity in vitro

Ames test

Result: negative
(IUCLID)

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Ingredients

hydrochloric acid

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

formaldehyde

Partition coefficient: n-octanol/water

log Pow: 0.021

(Lit.) Bioaccumulation is not expected.

methanol

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 15,400 mg/l; 96 h (in soft water) (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *E. sulcatum*: > 10,000 mg/l; 72 h (Lit.)

EC50 *Daphnia magna* (Water flea): > 10,000 mg/l; 48 h (IUCLID)

Toxicity to algae

EC50 *Pseudokirchneriella subcapitata* (green algae): ca. 22,000 mg/l; 96 h (External MSDS)

IC50 *Scenedesmus quadricauda* (Green algae): 8,000 mg/l; 8 d (IUCLID)

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

Toxicity to bacteria

EC5 Pseudomonas fluorescens: 6,600 mg/l; 16 h (IUCLID)

Toxicity to fish (Chronic toxicity)

NOEC Oryzias latipes (Orange-red killifish): 7,900 mg/l; 200 h
(External MSDS)

Biodegradability

99 %; 30 d

OECD Test Guideline 301D

Readily biodegradable.

Biochemical Oxygen Demand (BOD)

600 - 1,120 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

1,420 mg/g

(IUCLID)

Theoretical oxygen demand (ThOD)

1,500 mg/g

(Lit.)

Ratio BOD/ThBOD

BOD5 76 %

Closed Bottle test

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Stability in water

2.2 yr

reaction with hydroxyl radicals (IUCLID)

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	II
Environmentally hazardous	--

Air transport (IATA)

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

SECTION 15. Regulatory information

United States of America

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

formaldehyde	50-00-0	4.1177 %
methanol	67-56-1	1.1129 %
hydrochloric acid	7647-01-0	10.5885 %

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients

formaldehyde	50-00-0
hydrochloric acid	7647-01-0

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

101736

Version 1.3

Product name

OSTEOMOLL® rapid decalcifier-solution for Histology

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Ingredients

formaldehyde

hydrochloric acid

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Ingredients

formaldehyde

hydrochloric acid

DEA List I

Not listed

DEA List II

Listed

Ingredients

hydrochloric acid

7647-01-0

US State Regulations

Massachusetts Right To Know

Ingredients

hydrochloric acid

formaldehyde

methanol

Pennsylvania Right To Know

Ingredients

hydrochloric acid

formaldehyde

methanol

New Jersey Right To Know

Ingredients

hydrochloric acid

formaldehyde

methanol

California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ingredients

methanol

California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

Ingredients

formaldehyde

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101736
Product name OSTEOMOLL® rapid decalcifier-solution for Histology

Version 1.3

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.
DSL: All components of this product are on the Canadian DSL.
KOREA: Not in compliance with the inventory

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H370 Causes damage to organs.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 01/27/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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