



SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the CPR)

Revision Date 09/17/2015

Version 1.2

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

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)

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Corrosive to Metals, Category 1, H290
Acute toxicity, Category 4, Oral, H302
Skin irritation, Category 2, H315
Eye irritation, Category 2A, H319
Skin sensitization, Category 1, H317
Germ cell mutagenicity, Category 2, H341
Carcinogenicity, Category 1B, H350
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word

Danger

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Hazard Statements

H350 May cause cancer.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.

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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P390 Absorb spillage to prevent material damage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant stainless steel container with a resistant inner liner.
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 (>= 10 % - < 20 %)

7647-01-0

Exact percentages are being withheld as a trade secret.

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formaldehyde (>= 1 % - < 5 %)

50-00-0

Exact percentages are being withheld as a trade secret.

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

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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.

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).

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SECTION 8. Exposure controls/personal protection**Exposure limit(s)***Ingredients*

Basis	Value	Threshold limits	Remarks
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hydrochloric acid 7647-01-0

CAD AB OEL	Ceiling Limit Value:	2 ppm 3 mg/m ³	
CAD BC OEL	Ceiling Limit Value:	2 ppm	
CAD MB OEL	Ceiling Limit Value:	2 ppm	
CAD ON OEL	Ceiling Limit Value (CEV):	2 ppm	
OEL (QUE)	Ceiling Limit Value:	5 ppm 7.5 mg/m ³	

Recirculation prohibited

formaldehyde 50-00-0

CAD AB OEL	Time Weighted Average (TWA):	0.75 ppm 0.9 mg/m ³	
	Ceiling Limit Value:	1 ppm 1.3 mg/m ³	
CAD BC OEL	Ceiling Limit Value:	1 ppm	
	Time Weighted Average (TWA):	0.3 ppm	
CAD MB OEL	Ceiling Limit Value:	0.3 ppm	
CAD ON OEL	Short Term Exposure Limit (STEV):	1 ppm	
	Ceiling Limit Value (CEV):	1.5 ppm	
OEL (QUE)	Ceiling Limit Value:	2 ppm 3 mg/m ³	

Exposure must be minimized.

Recirculation prohibited

methanol 67-56-1

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CAD AB OEL	Time Weighted Average (TWA):	200 ppm 262 mg/m ³	
	Short Term Exposure Limit (STEL):	250 ppm 328 mg/m ³	
	Skin designation:		Can be absorbed through the skin.
CAD BC OEL	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
CAD MB OEL	Time Weighted Average (TWA):	200 ppm	
	Time Weighted Average (TWA):	200 ppm	
	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
CAD ON OEL	Time Weighted Average (TWAEV):	200 ppm	
	Short Term Exposure Limit (STEV):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
OEL (QUE)	Time Weighted Average (TWA):	200 ppm 262 mg/m ³	
	Short Term Exposure Limit (STEL):	250 ppm 328 mg/m ³	
	Skin designation:		Can be absorbed through the skin.

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

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.

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SECTION 9. Physical and chemical properties

Physical state	liquid
Color	blue
Odor	stinging
Odor Threshold	No information available.
pH	< 1 at 20 °C (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 20 °C (20 °C)
Relative density	No information available.
Water solubility	at 20 °C (20 °C) soluble
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.

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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

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

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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 ; vapor

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:

Possible carcinogen.

Mutagenicity:

Evidence of genetic defects.

Specific target organ systemic toxicity - single exposure

Target Organs: Respiratory system

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.

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:

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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

Skin irritation

Rabbit

Result: Corrosive

OECD Test Guideline 404

Eye irritation

Rabbit

Result: Irreversible effects on the eye

OECD Test Guideline 405

Sensitization

Maximization Test (GPMT) Guinea pig

Result: Does not cause skin sensitization.

Method: OECD Test Guideline 406

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)

Acute inhalation toxicity

LC50 Rat: 131.25 mg/l; 4 h ; vapor (ECHA)

Acute dermal toxicity

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

Skin irritation

Rabbit

Result: No skin irritation

(ECHA)

Eye irritation

Rabbit

Result: No eye irritation

(ECHA)

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Sensitization

Sensitization test: Guinea pig

Result: negative

Method: OECD Test Guideline 406

Repeated dose toxicity

Rat

male and female

Inhalation

vapor

28 d

daily

NOAEL: 6.66 mg/l

OECD Test Guideline 412

Subacute toxicity

Rat

male and female

Inhalation

365 d

daily

NOAEL: 0.13 mg/l

LOAEL: 1.3 mg/l

OECD Test Guideline 453

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Mouse

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Result: negative

Method: OECD Test Guideline 476

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

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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

flow-through test LC50 *Lepomis macrochirus* (Bluegill sunfish): 15,400 mg/l; 96 h
US-EPA

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

static test EC50 *Pseudokirchneriella subcapitata* (green algae): ca. 22,000 mg/l; 96 h
OECD Test Guideline 201

Toxicity to bacteria

EC50 *Pseudomonas fluorescens*: 6,600 mg/l; 16 h (IUCLID)

static test IC50 activated sludge: > 1,000 mg/l; 3 h

Analytical monitoring: yes

OECD Test Guideline 209

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

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Partition coefficient: n-octanol/water

log Pow: -0.77

(experimental)

(Lit.) Bioaccumulation is not expected.

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)

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

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SECTION 15. Regulatory information

United States of America

Canada

WHMIS Classification

D1B Toxic Material Causing Immediate and Serious Toxic Effects

D2A Very Toxic Material Causing Other Toxic Effects

D2B Toxic Material Causing Other Toxic Effects

E Corrosive Material

Toxic by ingestion, Carcinogen, Skin sensitizer, Mutagen, May be corrosive to metals.,

Corrosive to skin, Corrosive to eyes, Corrosive by inhalation.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

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

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

Precautionary Statements

Prevention

P201 Obtain special instructions before use.

P280 Wear protective gloves.

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Response

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.

Restricted to professional users.

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 09/17/2015

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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