



 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

Olin Corporation (OCAP) encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

#### **SECTION 1. IDENTIFICATION**

Product name : Sodium Hypochlorite, 17-30%

Other means of identification: No data available

Manufacturer or supplier's details

Company name of supplier : Olin Corporation (OCAP)

Address : 190 Carondelet Plaza, Suite 1530

Clayton MO 63105

Telephone : (423) 336-4850
E-mail address : INFO@OLIN.COM
Local Emergency Contact : +1 800-567-7455
Identified uses : Disinfectant.

Paper bleaching agent Water treatment chemicals

Biocidal product

Bleaching agents, activators and stabilisers

Textile bleaching agent

#### **SECTION 2. HAZARDS IDENTIFICATION**

GHS classification in accordance with the Hazardous Products Regulations

Corrosive to metals : Category 1

Skin corrosion : Category 1B

Serious eye damage : Category 1

**GHS** label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May be corrosive to metals.

Causes severe skin burns and eye damage.

Precautionary statements : Prevention:

P234 Keep only in original packaging. P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

#### Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363 Wash contaminated clothing before reuse. P390 Absorb spillage to prevent material damage.

#### Storage:

P405 Store locked up.

#### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

#### Other hazards

None known.

## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Substance

Substance name : Sodium hypochloride

CAS-No. : 7681-52-9

Synonyms : No data available

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Water	7732-18-5	>= 65.5 - <= 82.9
Sodium hypochlorite	7681-52-9	>= 17 - <= 30
Sodium hydroxide	1310-73-2	>= 0.1 - <= 4.5

#### **SECTION 4. FIRST AID MEASURES**

If inhaled : Move person to fresh air; if effects occur, consult a physician.

In case of skin contact : Immediately flush skin with plenty of water for at least 15

minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash cloth-

ing before reuse.

Suitable emergency safety shower facility should be immedi-

ately available.

In case of eye contact : - Wash eyes with plenty of water for 15 minutes at least. Do

not forget to remove contact lenses.

Suitable emergency eye wash facility should be immediately





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

available.

If swallowed: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of

water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully con-

scious.

Most important symptoms and effects, both acute and

delayed

Protection of first-aiders

Aside from the information found under Description of first aid measures (above), any additional important symptoms and effects are described in Section 11: Toxicology Information.

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical re-

sistant gloves, splash protection).

If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

Notes to physician : May cause asthma-like (reactive airways) symptoms. Bron-

chodilators, expectorants, antitussives and corticosteroids

may be of help.

Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontami-

nation.

Due to irritant properties, swallowing may result in

burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if

lavage is done. No specific antidote.

Treatment of exposure should be directed at the control of

symptoms and the clinical condition of the patient.

Repeated excessive exposure may aggravate preexisting lung

disease.

#### **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media: In case of fire, use water fog, foam, dry powder, carbon diox-

ide.

Unsuitable extinguishing

media

Do NOT use water jet.

May spread fire.

Dry chemical extinguishing agents may react with product;

use with caution.

Hazardous combustion prod: :

ucts

During a fire, smoke may contain the original material in addi-

tion to combustion products of varying composition which may

be toxic and/or irritating.

Further information : For safety reasons in case of fire, containers should be stored

separately in closed containments.

Do not breathe fumes.

Special protective equipment:

for firefighters

Wear full protective clothing and self-contained breathing ap-

paratus.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

gency procedures

Evacuate area.

Only trained and properly protected personnel must be in-

volved in clean-up operations.





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

Wear suitable protective equipment.

Avoid breathing vapor.
Avoid all contact.

Keep people away from and upwind of spill/leak.

Ventilate area of leak or spill. Wear suitable protective clothing.

Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions : Prevent from entering into soil, ditches, sewers, waterways

and/or groundwater. See Section 12, Ecological Information.

Do not discharge directly to a water source.

See Section 13, Disposal Considerations, for additional infor-

mation.

Methods and materials for containment and cleaning up

Contain spilled material if possible.

Small spills:

Large spills:

Absorb with materials such as:

Vermiculite.

Cover with absorbent or contain. Collect and dispose. Dike and transfer to suitable and properly labeled containers. This material is corrosive. See SECTION 8, Exposure Con-

trols/Personal Protection, prior to handling.

#### **SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Keep container closed.

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use with adequate ventilation.

Use good general industrial hygiene practices for handling.

Wash thoroughly after handling.

Protect from direct exposure to sunlight.

Conditions for safe storage : Keep container tightly closed.

Store away from incompatible materials. See STABILITY AND

REACTIVITY section.

Store under cover in a dry, clean, cool, well ventilated place

away from sunlight.

Store away from oxidizing materials. Store in original vented container.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters / Permissible concentration	Basis
Sodium hydroxide	1310-73-2	(c)	2 mg/m3	CA AB OEL
		С	2 mg/m3	CA BC OEL
		С	2 mg/m3	CA QC OEL
		С	2 mg/m3	ACGIH

Engineering measures : Use local exhaust ventilation, or other engineering controls to





Version Revision Date: 5.0 07-15-2021

SDS Number: 10000001224

Date of last issue: 03-05-2020 Date of first issue: 07-15-2021

maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Local exhaust ventilation may be necessary for some opera-

tions.

#### Personal protective equipment

Respiratory protection

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an ap-

proved air-purifying respirator.

Filter type : The following should be effective types of air-purifying respi-

rators: Particulate filter.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of

preferred glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications

provided by the glove supplier.

Eye protection : Use chemical goggles.

Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron,

or full body suit will depend on the task.

Reports indicate that sodium hypochlorite can react with various fabrics usually increasing with concentration. Reactions vary significantly depending on strength of chemical, material, fabric treatment and color of dyes. Fire resistant clothing treated cotton has a stronger response than plain cotton. Poly blend fabrics and meta aramid fabric have a weaker response than natural fibers. Contact the Personal Protective Equipment manufacturer for specific information about

their products.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Colour : yellow, green

Odour : pungent



# Sodium Hypochlorite, 17-30%

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

Odour Threshold : No data available

pH : 12 (25 °C)

Freezing point : -27.22 °C

Method: Measured

Melting point/range -27.22 °C

Method: Literature

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper

flammability limit

Not applicable

Lower explosion limit / Lower :

flammability limit

Not applicable

Vapour pressure : 12 mmHg

Relative vapour density : Not available

Relative density : 1.187 - 1.333 (20 °C)

Solubility(ies)

Water solubility : completely miscible

Partition coefficient: n-

octanol/water

: No data available

Auto-ignition temperature

Not applicable

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not applicable

Oxidizing properties : Not applicable

Molecular weight : 74.5 g/mol

Metal corrosion rate : Corrosive to metals





Version Revision Date: SDS Number: Date of last issue: 03-05-2020 10000001224 5.0 07-15-2021 Date of first issue: 07-15-2021

Note: These are the Reference Points for these Physical Properties listed above, unless otherwise noted in their respective Physical Property value information: Boiling Point at 760 mmHg: Evaporation Rate Butyl Acetate = 1; Relative Vapor Density Air = 1; and Relative Density Water = 1.

NOTE: The physical data presented above are typical values and should not be construed as a specification.

### **SECTION 10. STABILITY AND REACTIVITY**

tions

Possibility of hazardous reac- : Polymerization will not occur.

Stable under recommended storage conditions.

Conditions to avoid contact with incompatible materials

Avoid direct sunlight or ultraviolet sources.

Excessive heat.

contact between acids and chlorates, a component of this product mixture, can cause the generation of chlorine gas.

Hazardous decomposition

products

Oxygen

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

## **Acute toxicity**

## **Components:**

Sodium hypochlorite:

Acute oral toxicity LD50 (Rat): 805 mg/kg

Method: Estimated.

Acute inhalation toxicity LC50 (Rat): > 10.5 mg/l

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity LD50 (Rat): > 1,000 mg/kg

Sodium hydroxide:

Acute oral toxicity LD50 (Rabbit): 336 mg/kg

Method: Estimated.

Acute inhalation toxicity Remarks: The LC50 has not been determined.

Remarks: The dermal LD50 has not been determined. Acute dermal toxicity

Skin corrosion/irritation

**Components:** 

Sodium hypochlorite:

Result Causes burns.

Brief contact may cause skin burns. Symptoms may include Remarks

pain, severe local redness and tissue damage.

Prolonged contact may cause severe skin burns. Symptoms may include pain, severe local redness, swelling, and tissue





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

damage.

Sodium hydroxide:

Result : Causes severe burns.

Remarks : Brief contact may cause severe skin burns. Symptoms may

include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation

**Components:** 

Sodium hypochlorite:

Result : Corrosive

Remarks : May cause severe irritation with corneal injury which may re-

sult in permanent impairment of vision, even blindness. Chem-

ical burns may occur.

Sodium hydroxide:

Result : Corrosive

Remarks : May cause severe irritation with corneal injury which may re-

sult in permanent impairment of vision, even blindness. Chem-

ical burns may occur. Dust may irritate eyes.

Respiratory or skin sensitisation

**Components:** 

Sodium hypochlorite:

Assessment : Does not cause skin sensitisation.

Remarks : Did not cause allergic skin reactions when tested in guinea

pigs.

Remarks : For respiratory sensitization:

No relevant data found.

Sodium hydroxide:

Assessment : Does not cause skin sensitisation.

Remarks : Did not cause allergic skin reactions when tested in humans.

Remarks : For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

**Components:** 

Sodium hypochlorite:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative in

some cases and positive in other cases.

Animal genetic toxicity studies were predominantly negative.





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

Sodium hydroxide:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative.

Carcinogenicity

**Components:** 

Sodium hypochlorite:

Remarks : Did not cause cancer in laboratory animals.

Sodium hydroxide:

Remarks : No relevant data found.

Reproductive toxicity

**Components:** 

Sodium hypochlorite:

Effects on fertility : Remarks: For similar material(s):

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Effects on foetal develop-

ment

Remarks: Did not cause birth defects or any other fetal effects

in laboratory animals.

Sodium hydroxide:

Effects on fertility : Remarks: No relevant data found.

Effects on foetal develop-

ment

Remarks: No relevant data found.

STOT - single exposure

**Components:** 

Sodium hypochlorite:

Assessment : Material is corrosive. Material is not classified as a respiratory

irritant; however, upper respiratory tract irritation or corrosivity

may be expected.

Sodium hydroxide:

Assessment : Available data are inadequate to determine single exposure

specific target organ toxicity.

Repeated dose toxicity

**Components:** 

Sodium hypochlorite:

Remarks : Repeated exposures to dusts of this material are not antici-

pated to result in systemic toxicity or permanent lung injury; however, excessive exposures may cause less severe respir-





Version Revision Date: SDS Number: Date of last issue: 03-05-2020 5.0 07-15-2021 10000001224 Date of first issue: 07-15-2021

atory effects.

Sodium hydroxide:

Remarks : Based on available data, repeated exposures are not antici-

pated to cause additional significant adverse effects.

Aspiration toxicity

**Components:** 

Sodium hypochlorite:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung

injury.

Sodium hydroxide:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung

injury.

**SECTION 12. ECOLOGICAL INFORMATION** 

**Ecotoxicity** 

**Components:** 

Sodium hypochlorite:

Toxicity to fish : Remarks: Material is very highly toxic to aquatic organisms on

an acute basis (LC50/EC50 < 0.1 mg/L in the most sensitive

species).

LC50 (Pimephales promelas (fathead minnow)): 0.22 - 0.62

mg/l

Exposure time: 96 h

Method: Method Not Specified.

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.035 mg/l

Exposure time: 48 h

Test Type: flow-through test Method: OECD Test Guideline 202

M-Factor (Acute aquatic tox-:

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC (Menidia peninsulae (tidewater silverside)): 0.04 mg/l

Exposure time: 28 d

Test Type: flow-through test Method: Other guidelines

M-Factor (Chronic aquatic

toxicity)

: 1

Toxicity to microorganisms : EC50 (activated sludge): 28.7 mg/l

Sodium hydroxide:





Version Revision Date: SDS Number: Date of last issue: 03-05-2020 10000001224 5.0 07-15-2021 Date of first issue: 07-15-2021

Remarks: May increase pH of aquatic systems to > pH 10 Toxicity to fish

which may be toxic to aquatic organisms.

Persistence and degradability

**Components:** 

Sodium hypochlorite:

Biodegradability Remarks: Biodegradability is not applicable to inorganic sub-

stances.

Sodium hydroxide:

Biodegradability Remarks: Biodegradability is not applicable to inorganic sub-

stances.

Bioaccumulative potential

**Components:** 

Sodium hypochlorite:

Partition coefficient: n-

octanol/water

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

Partitioning from water to n-octanol is not applicable.

Sodium hydroxide:

Partition coefficient: n-

octanol/water

Remarks: No bioconcentration is expected because of the

relatively high water solubility.

Mobility in soil

**Components:** 

Sodium hypochlorite:

Distribution among environ-

mental compartments

Remarks: No relevant data found.

Sodium hydroxide:

Distribution among environ-

mental compartments

Koc: 14

Method: Estimated.

Remarks: Potential for mobility in soil is very high (Koc be-

tween 0 and 50).

Other adverse effects

**Components:** 

Sodium hypochlorite:

Results of PBT and vPvB

assessment

This substance has not been assessed for persistence, bioac-

cumulation and toxicity (PBT).

Sodium hydroxide:

Results of PBT and vPvB This substance is not considered to be persistent, bioaccumu-





Version Revision Date: SDS Number: Date of last issue: 03-05-2020 Date of first issue: 07-15-2021 5.0 07-15-2021 10000001224

lating and toxic (PBT). This substance is not considered to be assessment

very persistent and very bioaccumulating (vPvB).

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Waste from residues AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE

> MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS

MATERIAL.

THE INFORMATION PRESENTED HERE PERTAINS ONLY

TO THE PRODUCT AS SHIPPED IN ITS INTENDED

CONDITION AS DESCRIBED IN MSDS SECTION: Composi-

tion Information.

All disposal practices must be in compliance with all Federal.

State/Provincial and local laws and regulations. Regulations may vary in different locations.

Waste characterizations and compliance with applicable laws

are the responsibility solely of the waste generator.

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND,

OR INTO ANY BODY OF WATER.

#### **SECTION 14. TRANSPORT INFORMATION**

#### **International Regulations**

**UNRTDG** 

**UN** number UN 1791

Proper shipping name HYPOCHLORITE SOLUTION

Class Packing group Ш Labels 8

IATA-DGR

UN/ID No. UN 1791

Proper shipping name Hypochlorite solution

Class 8 Packing group Ш

Corrosive Labels 855

Packing instruction (cargo

aircraft)

Packing instruction (passen- :

851

ger aircraft)

**IMDG-Code** 

UN number UN 1791

HYPOCHLORITE SOLUTION Proper shipping name

(sodium hypochlorite)

Class 8 Packing group Ш Labels 8 EmS Code F-A, S-B

Marine pollutant

Remarks Stowage category BHypochlorites





Version Revision Date: SDS Number: Date of last issue: 03-05-2020 5.0 07-15-2021 10000001224 Date of first issue: 07-15-2021

## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### **National Regulations**

**TDG** 

UN number : UN 1791

Proper shipping name : HYPOCHLORITE SOLUTION

Class : 8
Packing group : II
Labels : 8
ERG Code : 154

Marine pollutant : yes(sodium hypochlorite)

## Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### **SECTION 15. REGULATORY INFORMATION**

**International Regulations** 

Montreal Protocol : Not applicable

Rotterdam Convention (Prior Informed Consent) : Not applicable

Stockholm Convention (Persistent Organic Pollutants) : Not applicable

The components of this product are reported in the following inventories:

TCSI : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

TSCA : All substances listed as active on the TSCA Inventory or are

not required to be listed.

AICS : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

DSL : All substances contained in this product are listed on the Ca-

nadian Domestic Substances List (DSL) or are not required to

be listed.

ENCS : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

ISHL : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

KECI : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

PICCS : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

IECSC : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

NZIoC : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

CH INV : All intentional components are listed on the inventory, are

exempt, or are supplier certified.

# Sodium Hypochlorite, 17-30%



 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

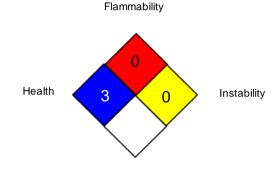
#### **Canadian lists**

No substances are subject to a Significant New Activity Notification.

#### **SECTION 16. OTHER INFORMATION**

#### **Further information**

#### **NFPA 704:**



Special hazard

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table

2: OEL)

CA BC OEL : Canada. British Columbia OEL

CA QC OEL : Québec. Regulation respecting occupational health and safe-

ty, Schedule 1, Part 1: Permissible exposure values for air-

borne contaminants

ACGIH / C : Ceiling limit

CA AB OEL / (c) : ceiling occupational exposure limit

CA BC OEL / C : ceiling limit CA QC OEL / C : Ceiling

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Or-





 Version
 Revision Date:
 SDS Number:
 Date of last issue: 03-05-2020

 5.0
 07-15-2021
 10000001224
 Date of first issue: 07-15-2021

ganisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population: LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose): MARPOL - International Convention for the Prevention of Pollution from Ships: n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances: (Q)SAR - (Quantitative) Structure Activity Relationship: REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 07-15-2021

Olin Corporation (OCAP) urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

CA / EN