HYDROGEN PEROXIDE 50% (ALL GRADES)

1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Oxygenated and Derivatives

Customer Service Telephone Number: 1-800-346-5757
(Monday through Friday, 8:30 AM to 5:30 PM EST)

Emergency Information

Transportation: CHEMTREC: (800) 424-9300
(24 hrs., 7 days a week)
Medical: Rocky Mountain Poison Center: (866) 767-5089
(24 hrs., 7 days a week)

Product Information

Product name: HYDROGEN PEROXIDE 50% (ALL GRADES)
Synonyms: H2O2 50%
Molecular formula: H2O2
Chemical family: peroxides
Molecular weight: 34.01 g/mol
Product use: Bleaching agent, Oxidizing agent, Cosmetics, Water treatment

2. HAZARDS IDENTIFICATION

Emergency Overview
Color: colourless
Physical state: liquid
Odor: pungent

***Classification of the substance or mixture:**
Oxidizing liquids, Category 2, H272
Oral: Acute toxicity, Category 3, H301
Skin corrosion, Category 1C, H314
Serious eye damage, Category 1, H318
Specific target organ toxicity - single exposure, Category 3, H335
Chronic aquatic toxicity, Category 3, H412

*For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labelling

Hazard pictograms:



Signal word: **Danger**

Hazard statements:

H272 : May intensify fire; oxidiser.
H301 : Toxic if swallowed.
H314 : Causes severe skin burns and eye damage.
H335 : May cause respiratory irritation.
H412 : Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
P210 : Keep away from heat.
P220 : Keep/Store away from clothing/ combustible materials.
P221 : Take any precaution to avoid mixing with combustibles.
P261 : Avoid breathing gas/mist/vapours/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.
P273 : Avoid release to the environment.
P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
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.
P363 : Wash contaminated clothing before reuse.
P370 + P378 : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:
P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.
P405 : Store locked up.

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

Supplemental information:

Potential Health Effects:
If swallowed:
May cause: gastrointestinal symptoms, ulceration, burns, accumulation of fluid in the lungs which may be delayed for several hours, (severity of effects depends on extent of exposure).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
HYDROGEN PEROXIDE	7722-84-1	50 %	H271, H301, H332, H335, H314, H318, H412

Water	7732-18-5	50 %	Not classified

**For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Inhalation:
If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Skin:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Remove contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Eyes:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion:
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Call a Poison Control Center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. Rinse mouth.

Notes to physician:
Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours after exposure for the onset of delayed respiratory symptoms.

5. FIREFIGHTING MEASURES

Extinguishing media (suitable):
water spray, water fog

Protective equipment:
Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Further firefighting advice:
Oxidizing material
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Decomposition will release oxygen, which will intensify a fire.
Cool closed containers exposed to fire with water spray.
Closed containers of this material may explode when subjected to heat from surrounding fire.
Do not allow run-off from fire fighting to enter drains or water courses.
Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:

Solutions above 65% are especially hazardous as they do not contain enough water to remove the heat of decomposition by evaporation.
Explosive when mixed with combustible material.
Avoid breathing fumes from fire exposed material.

6. ACCIDENTAL RELEASE MEASURES

In case of spill or leak:
Prevent further leakage or spillage if you can do so without risk. Evacuate area of all unnecessary personnel. Ventilate the area. Eliminate all ignition sources. Avoid generation of vapors. Avoid contact with cellulose, paper, sawdust or similar substances. Risk of self-ignition or promotion of fires. Combustible materials exposed to hydrogen peroxide should be rinsed immediately with large amounts of water to ensure that all the hydrogen peroxide is removed. Contain and collect spillage with non-combustible absorbent material such as clean sand, earth, diatomaceous earth or non-acidic clay and place into suitable properly labeled containers for prompt disposal. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7. HANDLING AND STORAGE

Handling

General information on handling:
Do not taste or swallow.
Do not get in eyes, on skin, or on clothing.
Avoid breathing vapor or mist.
Keep from contact with clothing and other combustible materials.
Keep away from heat, sparks and flames.
Use only with adequate ventilation.
Wash thoroughly after handling.
Wear fire/ flame resistant/ retardant clothing.
Prevent product contamination.
Keep only in the original container.
Store in tightly closed container.
DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.
Emptied container retains vapor and product residue.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.
Avoid contamination.

Storage

General information on storage conditions:
Store in tightly closed container. Store in cool, dry, well ventilated area away from sources of ignition such as flame, sparks and static electricity. Store out of direct sunlight in a cool well-ventilated place. Store in original container. Store away from combustibles and incompatible materials. Refer to National Fire Protection Association (NFPA) 430, Code for the Storage of Solid and Liquid Oxidizers.

Storage incompatibility – General:
Store separate from acids, alkalies, reducing agents, and combustibles. Store separate from: Metallic oxides

Organic materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

HYDROGEN PEROXIDE (7722-84-1)

US. ACGIH Threshold Limit Values

Time weighted average	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL:	1 ppm (1.4 mg/m3)

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:
Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above).If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Respiratory protection:
Avoid breathing vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. When handling this material, gloves of the following type(s) should be worn: Neoprene

Polyvinylchloride

Impervious butyl rubber gloves

Wear a face shield, chemical goggles and chemical resistant clothing such as an approved splash protective suit made of SBR Rubber, PVC, Gore-Tex or a HAZMAT Splash Protective Suit (Level A, B, or C) when splashing may occur (such as connecting/disconnecting, mechanical first break). For foot protection, wear boots made of NBR, PVC, polyurethane, or neoprene. Overboots made of Latex or PVC, as well as firefighter boots or specialized HAZMAT boots are also permitted. DO NOT wear any form of boot or overboots made of nylon or nylon blends. DO NOT use cotton, wool or leather, as these materials react RAPIDLY with higher concentrations of hydrogen peroxide. Rinse immediately if skin is contaminated. Remove contaminated clothing and shoes immediately. Thoroughly rinse the outside of gloves and protective clothing with water prior to

removal. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

Eye protection:
Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	colourless
Physical state:	liquid
Odor:	pungent
Odor threshold:	No data available
Flash point	None.
Auto-ignition temperature:	Not applicable
Lower flammable limit (LFL):	Not applicable
Upper flammable limit (UFL):	Not applicable
pH:	No data available
Density:	1.196 g/cm3 (68 °F (20 °C))
Vapor pressure:	18 mmHg (68 °F (20 °C))
Relative vapor density:	1.0
Vapor density:	not determined
Boiling point/boiling range:	237 °F (114 °C)
Freezing point:	-62 °F (-52 °C)
Evaporation rate:	No data available
Solubility in water:	completely soluble
% Volatiles:	100 %
Molecular weight:	34.01 g/mol

Oil/water partition coefficient:	No data available
Thermal decomposition	No data available
Flammability:	See GHS Classification in Section 2

10. STABILITY AND REACTIVITY

Stability:
This material is chemically stable under normal and anticipated storage, handling and processing conditions.

Materials to avoid:
Metals
Organic materials
Reducing agents
Metallic oxides
Dusts
Combustible materials (e.g., wood, sawdust)
Alkaline materials

Conditions / hazards to avoid:
Material decomposes with the potential to produce a rupture of unvented closed containers.

Hazardous decomposition products:
This material decomposes if contaminated, causing fire and possible explosions. Oxygen can be liberated at temperatures above ambient.

11. TOXICOLOGICAL INFORMATION

Data for HYDROGEN PEROXIDE 50% (ALL GRADES)

Acute toxicity

Oral:
Toxic if swallowed. (Rat) LD50 = 225 - 1,200 mg/kg. (50 %) (as aqueous solution)

Dermal:
Practically nontoxic. (Rat) LD50 = 9,200 mg/kg. (70 %) (as aqueous solution)

Inhalation:
No deaths occurred. (Rat) 4 h LC0 > 0.17 mg/l. (50 %) (saturated vapor)

Specific target organ toxicity - single exposure:
May cause respiratory irritation.

Skin Irritation:
Causes severe skin burns. (Rabbit) (1 h) (50 %) (aqueous solution)

Eye Irritation:

Causes serious eye damage. (Rabbit) (70 %) (aqueous solution)

12. ECOLOGICAL INFORMATION

Chemical Fate and Pathway
Data on this material and/or a similar material are summarized below.

Ecotoxicology
Data on this material and/or a similar material are summarized below.

13. DISPOSAL CONSIDERATIONS

Waste disposal:
Dilution with water is the preferred method of disposal. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Take appropriate measures to prevent release to the environment.

14. TRANSPORT INFORMATION

US Department of Transportation (DOT)

UN Number	:	2014
Proper shipping name	:	Hydrogen peroxide, aqueous solutions
Class	:	5.1
Subsidiary hazard class	:	(8)
Packaging group	:	II
Marine pollutant	:	no

International Maritime Dangerous Goods Code (IMDG)

UN Number	:	2014
Proper shipping name	:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class	:	5.1
Subsidiary hazard class	:	(8)
Packaging group	:	II
Marine pollutant	:	no

15. REGULATORY INFORMATION

Chemical Inventory Status

EU. EINECS	EINECS	Conforms to

US. Toxic Substances Control Act	TSCA	The components of this product are all on the TSCA Inventory.
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	Conforms to
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL.
Japan. Kashin-Hou Law List	ENCS (JP)	Does not conform
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	Does not conform
China. Inventory of Existing Chemical Substances	IECSC (CN)	Does not conform

United States – Federal Regulations

SARA Title III – Section 302 Extremely Hazardous Chemicals:

Chemical Name	CAS-No.	SARA Reportable Quantities	SARA Threshold Planning Quantity
HYDROGEN PEROXIDE	7722-84-1	1000 lbs	1000 lbs

SARA Title III - Section 311/312 Hazard Categories:
Acute Health Hazard, Fire Hazard, Reactivity Hazard

SARA Title III – Section 313 Toxic Chemicals:
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

United States – State Regulations

New Jersey Right to Know

Chemical Name	CAS-No.
Water	7732-18-5
HYDROGEN PEROXIDE	7722-84-1

New Jersey Right to Know – Special Health Hazard Substance(s)

Chemical Name	CAS-No.
HYDROGEN PEROXIDE	7722-84-1

Pennsylvania Right to Know

Chemical Name	CAS-No.
Water	7732-18-5
HYDROGEN PEROXIDE	7722-84-1

Pennsylvania Right to Know – Environmentally Hazardous Substance(s)

Chemical Name	CAS-No.
HYDROGEN PEROXIDE	7722-84-1

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.

16. OTHER INFORMATION

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

H272 May intensify fire; oxidiser.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Miscellaneous:

Other information: This MSDS covers the following grades of 50% H2O2: ALBONE®, PEROXAL®, VALSTERANE®; A; Alb, BIO; CG; CG-HP; CGHP; CLG; DS; FG; M; MS.

Latest Revision(s):

Revised Section(s): New GHS SDS
Reference number: 000000033382
Date of Revision: 02/10/2015
Date Printed: 02/10/2015

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