

1. Identification

Product identifier	CHP Hardener
Other means of identification	None.
Recommended use	Not available.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Armor Limited, Inc.
Address	2410 US-15 South, Sumter, SC 29150
After hours telephone number	1-877-982-7667
Normal work hours telephone number	1-877-982-7667
Website	www.armor-inc.com
E-mail	customerservice@armor-inc.com
Emergency 24-hour telephone number	CHEMTREC North America: 800-424-9300, International: +1-703-527-3887
Information on operation hours	8:00 a.m. to 5:00 p.m.

2. Hazard(s) identification

Physical hazards	Organic peroxides	Type F
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements



Signal word

Danger

Hazard statement

Heating may cause a fire. Harmful if swallowed. Harmful in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep/Store away from clothing and other combustible materials. Keep only in original container. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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. IF exposed or concerned: Get medical advice/attention. Specific treatment see Section 4 of this SDS. Take off contaminated clothing and wash it before reuse. Collect spillage.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Store away from other materials. Store at temperatures not exceeding -13°F to 104°F(-25°C to 40°C). Keep cool.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CUMYL HYDROPEROXIDE		80-15-9	87 - 90
2-PHENYLISOPROPANOL		617-94-7	5 - 10
CUMENE		98-82-8	1 - 5
ACETOPHENONE		98-86-2	1 - 2
DICUMYL PEROXIDE		80-43-3	< 1

4. First-aid measures

Inhalation

Move into fresh air and keep at rest. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention immediately.

Skin contact

Immediately remove contaminated clothing. Rinse immediately with plenty of water. Wash clothing separately before reuse. Get medical attention immediately.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion

Rinse mouth thoroughly. Do NOT induce vomiting. Immediately give large quantities of water to drink. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Irritating to mouth, throat, and stomach. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Causes serious eye damage. Contact may cause redness, burning, drying, and cracking of the skin, and skin damage.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Get medical attention if symptoms occur.

5. Fire-fighting measures

Suitable extinguishing media

Water spray. Dry chemical. Alcohol resistant foam. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Container may explode in heat of fire. Fire may produce irritating, corrosive and/or toxic gases. Carbon oxides.

Special protective equipment and precautions for firefighters

Fire fighting equipment/instructions

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Firefighters should wear full protective clothing including self contained breathing apparatus. Avoid breathing fire vapors. Dike fire control water for later disposal. Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Methods and materials for containment and cleaning up

Keep unnecessary personnel away. Eliminate all sources of ignition. Local authorities should be advised if significant spillages cannot be contained. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Vapors can accumulate in low areas. Vapor accumulation may reach explosive concentrations if airflow to location is inadequate.

Wear appropriate protective equipment and clothing during clean-up. Do not allow the spilled product to enter public drainage system or open water courses. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use.
Prevent entry into drains. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling

Conditions for safe storage, including any incompatibilities

Eliminate all sources of ignition. Avoid forming spray/aerosol mists. Do not breathe gas/fumes/vapor/spray. Do not get in eyes, on skin, on clothing. Keep away from heat, sparks and open flame. Contact with incompatible materials or exposure to temperatures exceeding SADT (See Section 9) may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Do not taste or swallow. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Keep container tightly closed in a cool, well-ventilated place. Do not store in direct sunlight. Recommended storage temperature is between -13°F to 104°F (-25° C to 40°C). Store away from combustibles and incompatible materials. Keep away from sources of ignition - No smoking. If product freezes or separates, contact the manufacturer.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
CUMENE (CAS 98-82-8)	PEL	245 mg/m3 50 ppm

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
ACETOPHENONE (CAS 98-86-2)	TWA	10 ppm
CUMENE (CAS 98-82-8)	TWA	5 ppm

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
CUMENE (CAS 98-82-8)	TWA	245 mg/m3 50 ppm

US. OARS. Workplace Environmental Exposure Level (WEEL) Guide

Components	Type	Value
ACETOPHENONE (CAS 98-86-2)	TWA	50 mg/m3 10 ppm
CUMYL HYDROPEROXIDE (CAS 80-15-9)	TWA	6 mg/m3

US. OARS. Workplace Environmental Exposure Level (WEEL) Guide

Components	Type	Value
		1 ppm
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Exposure guidelines		
US - California OELs: Skin designation		
CUMENE (CAS 98-82-8)	Can be absorbed through the skin.	
US - Minnesota Haz Subs: Skin designation applies		
CUMENE (CAS 98-82-8)	Skin designation applies.	
US - Tennessee OELs: Skin designation		
CUMENE (CAS 98-82-8)	Can be absorbed through the skin.	
US NIOSH Pocket Guide to Chemical Hazards: Skin designation		
CUMENE (CAS 98-82-8)	Can be absorbed through the skin.	
US WEEL Guides: Skin designation		
CUMYL HYDROPEROXIDE (CAS 80-15-9)	Can be absorbed through the skin.	
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)		
CUMENE (CAS 98-82-8)	Can be absorbed through the skin.	
Appropriate engineering controls	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Provide eyewash station and safety shower.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Chemical goggles and face shield are recommended.	
Skin protection		
Hand protection	Neoprene. Nitrile rubber.	
Other	Wear appropriate chemical resistant clothing.	
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Do not get in eyes, on skin, on clothing.	

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Pungent.
Odor threshold	Not available.
pH	> 4 - < 7
Melting point/freezing point	-22 °F (-30 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	4 hPa (68°F/20°C)
Vapor density	Not available.
Relative density	1.06 (68°F/20°C)

Solubility(ies)	
Solubility (water)	Miscible (68°F/20°C)
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	149 °F (65 °C) SADT- Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite.
Viscosity	10.28 mm²/s (68°F/20°C)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions. SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generated a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Copper. Iron. Rust. Accelerators. Acids. Bases. Heavy metals. Reducing agents.
Hazardous decomposition products	Methane. Acetophenone. 2-Phenylisopropanol.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	Causes severe skin burns and eye damage.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed. Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Rash. Contact may cause redness, burning, drying, and cracking of the skin, and skin damage. Inhalation. Difficulty in breathing.
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Information on toxicological effects

Acute toxicity	Harmful if swallowed. Harmful in contact with skin.
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Product	Species	Test Results
CHP Hardener		
Acute		
Dermal		
LD50	Rat	0.5678 ml/kg
Inhalation		
LC50	Rat	267997.7188 mg/l
Oral		
LD50	Rat	14.338 ml/kg
Components	Species	Test Results
2-PHENYLISOPROPANOL (CAS 617-94-7)		
Acute		
Oral		
LD50	Mouse	1.95 g/kg

Components	Species	Test Results
ACETOPHENONE (CAS 98-86-2)		
Acute		
Oral		
LD50	Rat	0.81 g/kg
CUMENE (CAS 98-82-8)		
Acute		
Inhalation		
LC50	-	24700 mg/m3, 2 Hours
Oral		
LD50	Rat	1400 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	Causes skin burns. Harmful if absorbed through skin. May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	No data available to indicate product or any components present at greater than 0.1% are carcinogenic.

IARC Monographs. Overall Evaluation of Carcinogenicity

CUMENE (CAS 98-82-8) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

CUMENE (CAS 98-82-8) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not available.

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects.
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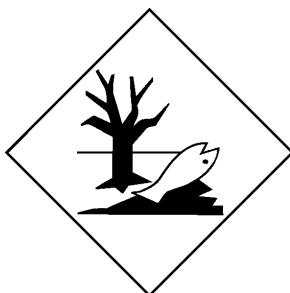
Product	Species		Test Results
CHP Hardener			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia	119.1275 mg/l, 48 hours estimated
Fish	LC50	Fish	89.8217 mg/l, 96 hours estimated
Components	Species		Test Results
ACETOPHENONE (CAS 98-86-2)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Fathead minnow (Pimephales promelas)	155 mg/l, 96 hours
CUMENE (CAS 98-82-8)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Brine shrimp (Artemia sp.)	>= 3.55 - <= 11.29 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		2.7 mg/l, 96 hours
* Estimates for product may be based on additional component data not shown.		
Persistence and degradability	Not available.	
Bioaccumulative potential	Not available.	
Partition coefficient n-octanol / water (log Kow)		
ACETOPHENONE	1.58	
CUMENE	3.66	
DICUMYL PEROXIDE	5.5	
Mobility in soil	Not available.	
Other adverse effects	Not available.	
13. Disposal considerations		
Disposal instructions	Do not allow this material to drain into sewers/water supplies. Dispose of waste and residues in accordance with local authority requirements.	
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.	
Waste from residues / unused products	Avoid discharge into water courses or onto the ground.	
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. DO NOT pressurize, cut, heat, or weld containers; they may explode and cause injury or death. Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.	
14. Transport information		
DOT		
UN number	UN3109	
UN proper shipping name	Organic peroxide type F, liquid (Cumyl Hydroperoxide, <90%), MARINE POLLUTANT	
Transport hazard class(es)		
Class	5.2	
Subsidiary hazard	-	
Label(s)	5.2	
Packing group	II	
Environmental hazards		
Marine pollutant	YES	
Special precautions for user	Not assigned.	
Special provisions	IP5	
Packaging exceptions	152	
Packaging non bulk	225	
Packaging bulk	225	
IATA		
UN number	UN3109	
UN proper shipping name	Organic peroxide type F, liquid (Cumyl Hydroperoxide, <90%)	
Transport hazard class(es)		
Class	5.2	
Subsidiary hazard	-	
Packing group	-	
Environmental hazards	YES	
ERG Code	5L	
Special precautions for user	Not assigned.	
Other information		
Passenger and cargo aircraft	Allowed with restrictions.	
Cargo aircraft only	Allowed with restrictions.	

IMDG

UN number	UN3109
UN proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Cumyl Hydroperoxide, <90%), MARINE POLLUTANT
Transport hazard class(es)	
Class	5.2
Subsidiary hazard	-
Packing group	-
Environmental hazards	
Marine pollutant	Yes
EmS	F-J, S-R
Special precautions for user	Not assigned.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT**IATA****IMDG****Marine pollutant**

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

ACETOPHENONE (CAS 98-86-2) Listed.

CUMENE (CAS 98-82-8) Listed.

CUMYL HYDROPEROXIDE (CAS 80-15-9) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Organic peroxide
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
ACETOPHENONE	98-86-2	1 - 2
CUMENE	98-82-8	1 - 5
CUMYL HYDROPEROXIDE	80-15-9	87 - 90

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

ACETOPHENONE (CAS 98-86-2)

CUMENE (CAS 98-82-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

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

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

ACETOPHENONE (CAS 98-86-2)

CUMENE (CAS 98-82-8)

DICUMYL PEROXIDE (CAS 80-43-3)

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

CUMENE (CAS 98-82-8) Listed: April 6, 2010

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	01-27-2015
Revision date	04-03-2024
Version #	06
Further information	HMIS® is a registered trade and service mark of the NPCA.

References	Active Oxygen Content = 9.25% min. ACGIH EPA: ACQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank JCIA GHS Guideline, October 2008 IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
Disclaimer	Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of OSHA.
Revision information	Hazard(s) identification: Prevention Hazard(s) identification: Storage Hazard(s) identification: Hazard statement First-aid measures: Eye contact First-aid measures: Ingestion Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Ecological Information: Ecotoxicity GHS: Classification