



SAFETY DATA SHEET

HARDENER 008 7200

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : HARDENER 008 7200
Product description : Hardener.

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

Recommended use: Painting work

1.3 Details of the supplier of the safety data sheet

Manufacturer or Distributor

Tikkurila Oyj
P.O. Box 53
FI-01301 VANTAA
FINLAND
Telephone +358 20 191 2000

e-mail address of person responsible for this SDS : Tikkurila Oyj,
Product Safety,
e-mail: productsafety@tikkurila.com

1.4 Emergency telephone number

Telephone number : 112
(24h)

Supplier or Manufacturer

Telephone number : Tikkurila Oyj
+358 20 191 2000 (GMT +2) Mon-Fri 8-16

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Org. Perox. D, H242
Acute Tox. 4, H302
Acute Tox. 4, H332
Skin Corr. 1B, H314
Skin Sens. 1, H317
STOT SE 3, H335
STOT RE 2, H373
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements	: H242 - Heating may cause a fire. H302 + H332 - Harmful if swallowed or if inhaled. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation. H373 - May cause damage to organs through prolonged or repeated exposure. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements	
General	: Not applicable.
Prevention	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing mist/vapors/spray. P273 - Avoid release to the environment. P280 - Wear protective gloves/clothing and eye/face protection. P284 - In case of inadequate ventilation wear respiratory protection.
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 or shower. 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 physician.
Storage	: P410 - Protect from sunlight. P411 - Store at temperatures not exceeding 25 °C. P420 - Store separately.
Disposal	: Not applicable.
Hazardous ingredients	: cumene hydroperoxide reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane tert-butyl perbenzoate
Supplemental label elements	: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	<u>Classification</u> Regulation (EC) No. 1272/2008 [CLP]	Notes
cumene hydroperoxide	EC: 201-254-7 CAS: 80-15-9 Index: 617-002-00-8	≥10 - ≤20	Org. Perox. E, H242 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 3, H331 Skin Corr. 1B, H314 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 2, H411	-
reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	REACH #: 01-2119514691-43 EC: 700-954-4 CAS: 1338-23-4	≥10 - ≤20	Org. Perox. D, H242 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314	-
tert-butyl perbenzoate	EC: 210-382-2 CAS: 614-45-9	≤10	Org. Perox. C, H242 Acute Tox. 4, H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1)	-
cumene	REACH #: 01-2119473983-24 EC: 202-704-5 CAS: 98-82-8 Index: 601-024-00-X	≤5	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	C
1-ethylpyrrolidin-2-one	REACH #: 01-2119472138-36	≤0.3	Eye Dam. 1, H318	-

EC: 220-250-6
CAS: 2687-91-4

Repr. 1B, H360D (Unborn child)

**See Section 16 for the full
text of the H statements
declared above.**

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Notes, if applicable, refer to Notes given in Annex VI of 1272/2008/EC.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Show this safety data sheet or label to the doctor if possible.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of lukewarm water, keeping eyelids open. Continue to rinse for at least 20 minutes. Get medical attention immediately. Continue rinsing until medical attention can be obtained.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. In case of chemical burns, get medical attention as soon as possible. Wash clothing before reuse.
- Ingestion** : If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Remove to fresh air and keep at rest in a position comfortable for breathing. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause damage to organs through prolonged or repeated exposure.

May cause respiratory irritation.

May cause an allergic skin reaction.

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. Recommended: Alcohol resistant foam, CO₂, powders or water spray/mist.
- Unsuitable extinguishing media** : Do not use a direct water jet that could spread the fire.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : This product is not classified as flammable. Heating may cause a fire. Fire will produce dense black smoke. In case of fire and/or explosion do not breathe fumes. Exposure to decomposition products may cause a health hazard.

Hazardous combustion products : When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Use water spray to keep fire-exposed containers cool. This material is hazardous to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures : Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Do not breathe vapor or mist. Do not get in eyes or on skin. Put on appropriate personal protective equipment (see Section 8).

6.2 Environmental precautions : Hazardous to aquatic environment. Do not allow to enter drains, water courses or soil.

6.3 Methods and materials for containment and cleaning up : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use non-sparking tools. Preferably clean with a detergent. Avoid using solvents. The waste should NOT be confined.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling : Avoid confinement. Do not allow to dry out. Explosive when dry. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. Isolate from sources of heat, sparks and open flame. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Use spark-proof tools and explosion-proof equipment. Skin contact with the product and exposure to spray mist and vapor should be avoided. Avoid inhalation of dust from sanding. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Wear appropriate respirator when ventilation is inadequate. See Section 8 for information on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled and stored. Wash hands before breaks and immediately after handling the product. Avoid release to the environment.

7.2 Conditions for safe storage, including any incompatibilities : Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store and use away from heat, sparks, open flame or any other ignition source. No smoking. Keep only in the original container. Keep container tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature is +5°C ...+25°C. Store in accordance with local regulations.

7.3 Specific end use(s) : None.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
cumene	EU OEL (Europe, 12/2017). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 20 ppm 8 hours. TWA: 100 mg/m ³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 250 mg/m ³ 15 minutes.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof ventilation equipment. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn (see Personal protection for both components). Provide a readily-accessible eyewash facility. Comply with the health and safety at work laws.

Individual protection measures

Eye/face protection : Wear eye/face protection (EN166).

Hand protection : Always wear approved protective gloves against chemicals. Gloves should be replaced regularly and if there is any sign of damage to the glove material. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
 Recommended glove material (EN374):
 < 1 hour (breakthrough time): nitrile rubber
 > 8 hours (breakthrough time): fluor rubber, laminated foil
 Not recommended: PVC or natural rubber (latex) gloves

Skin protection : Wear suitable protective clothing.

Respiratory protection : If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist. During spray-application use respirators with combination filter A/P3 (EN405:2001). Wear a half mask or full face respirator with gas and vapor filter A and dust filter P2 during sanding (EN140:1998, EN405:2001). During continuous and long-term work the use of motor-driven or air-fed respirators is recommended (EN12941:1998). Be sure to use an approved/certified respirator or equivalent. Check that mask fits tightly and change filter regularly.

Environmental exposure controls : For information regarding environmental protection measures, please refer to section 13 for waste handling, section 7 for handling and storage and section 1.2 for relevant identified uses of the substance or mixture and uses advised against.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Strong.
- Odor threshold** : Not relevant for the hazard assessment of the product.

pH	: Not relevant for the hazard assessment of the product.
Melting point/freezing point	: -9°C (cumene hydroperoxide)
Initial boiling point and boiling range	: Not relevant due to the nature of the product.
Flash point	: Not available.
Evaporation rate	: Not relevant due to the nature of the product.
Flammability (solid, gas)	: Not applicable. Product is a liquid.
Upper/lower flammability or explosive limits	: Lower: 0.9% (cumene hydroperoxide) Upper: 6.5% (cumene hydroperoxide)
Vapor pressure	: 0 kPa [room temperature] (cumene hydroperoxide)
Vapor density	: 5.4 (cumene hydroperoxide)
Density	: 1 g/cm ³
Solubility(ies)	: insoluble in water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: 148.85°C (cumene hydroperoxide)
Decomposition temperature	: Not relevant for the hazard assessment of the product.
Viscosity	: Not relevant for the hazard assessment of the product.
Explosive properties	: No explosive ingredients present.
Oxidizing properties	: No oxidizing ingredients present.

9.2 Other information

SADT : 60 °C

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : See Section 10.5.
- 10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at or above the SADT.
- 10.4 Conditions to avoid** : Avoid extreme heat and freezing. Avoid all possible sources of ignition (spark or flame). Avoid shock and friction. Protect from sunlight. SADT (Self-Accelerating Decomposition Temperature) is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used for transport.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions:
 reducing agents
 strong acids
 strong alkalis
 heavy metals
 alkali metal
 alkaline earth metal
 Contact with incompatible substances can cause decomposition at or below the SADT.
 Do not mix with peroxide accelerators.
- 10.6 Hazardous decomposition products** : When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There is no testdata available on the product itself.

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Long term exposure causes irritation of respiratory system and mucous membranes of nose and throat. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Long-term exposure may cause headache, nausea or weakness. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Prolonged contact can cause severe irritation or even burns. The liquid splashed in the eyes may cause irreversible damage.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cumene hydroperoxide	LD50 Oral	Rat	382 mg/kg	-
reaction mass of butane-2, 2-diyl dihydroperoxide and di-sec-butylhexaoxidane	LD50 Oral	Rat	470 mg/kg	-

Harmful if swallowed or if inhaled.

Irritation/Corrosion

Causes severe skin burns and eye damage.

Sensitization

May cause an allergic skin reaction.

Mutagenicity

Not classified.

Carcinogenicity

Not classified.

Reproductive toxicity

Not classified.

Teratogenicity

Not classified.

Specific target organ toxicity (single exposure)

May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Not classified.

SECTION 12: Ecological information

Ecological testing has not been conducted on this product.

Do not allow to enter drains, water courses or soil.

The product is classified as environmetally hazardous according to Regulation (EC) 1272/2008.

Harmful to aquatic life with long lasting effects.

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
cumene hydroperoxide	LC50 3.9 mg/l	Fish - Oncorhynchus mykiss	96 hours
cumene	LC50 6.32 mg/l	Fish - Pimephales promelas	96 hours

12.2 Persistence and degradability

: No specific data.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	Bioconcentration factor [BCF]	Potential
1-ethylpyrrolidin-2-one	-0.2	-	low
cumene	3.55	35.48	low
tert-butyl perbenzoate	3	-	low
reaction mass of butane-2, 2-diyl dihydroperoxide and di-sec-butylhexaoxidane	<0.3	-	low
cumene hydroperoxide	1.6	9	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : Not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : Gather residues into waste containers. Liquid residue and cleaning liquids are hazardous waste and must not be emptied into drains or sewage system, but handled in accordance with national regulations. Product residues should be left at special companies which have permission for gathering this kind of wastes.

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances peroxides, for example hydrogen peroxide
16 09 03*	

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

Packaging

Methods of disposal : Empty packaging should be recycled or disposed of in accordance with national regulations.

Special precautions : None.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN3105	UN3105	UN3105
14.2 UN proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID	ORGANIC PEROXIDE TYPE D, LIQUID	Organic peroxide type D, liquid

14.3 Transport hazard class(es)	5.2	5.2	5.2
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

ADR/RID : **Limited quantity** 125 ml
Special provisions 122, 274
Tunnel code (D)

IMDG : **Emergency schedules** F-J, S-R
Special provisions 122, 274

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 5 L.. Packaging instructions: 570.
Cargo Aircraft Only: 10 L.. Packaging instructions: 570. Limited Quantities -
Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A20, A150, A802

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU Regulation (EC) No. 1907/2006 (REACH)

Other EU regulations

Europe inventory : At least one component is not listed.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
1-ethylpyrrolidin-2-one	-	-	Repr. 1B, H360D (Unborn child)	-

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification

Justification

Org. Perox. D, H242	Expert judgment
Acute Tox. 4, H302	Expert judgment
Acute Tox. 4, H332	Expert judgment
Skin Corr. 1B, H314	Expert judgment
Skin Sens. 1, H317	Expert judgment
STOT SE 3, H335	Expert judgment
STOT RE 2, H373	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of abbreviated H statements	:	H226	Flammable liquid and vapor.
		H242	Heating may cause a fire.
		H302	Harmful if swallowed.
		H304	May be fatal if swallowed and enters airways.
		H312	Harmful in contact with skin.
		H314	Causes severe skin burns and eye damage.
		H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H331	Toxic if inhaled.
		H332	Harmful if inhaled.
		H335	May cause respiratory irritation.
		H360D	May damage the unborn child.
		H373	May cause damage to organs through prolonged or repeated exposure.
		H400	Very toxic to aquatic life.
	H411	Toxic to aquatic life with long lasting effects.	
	H412	Harmful to aquatic life with long lasting effects.	

Full text of classifications [CLP/GHS]	:	Acute Tox. 3, H331	ACUTE TOXICITY (inhalation) - Category 3
		Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
		Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
		Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
		Aquatic Acute 1, H400	AQUATIC HAZARD (ACUTE) - Category 1
		Aquatic Chronic 2, H411	AQUATIC HAZARD (LONG-TERM) - Category 2
		Aquatic Chronic 3, H412	AQUATIC HAZARD (LONG-TERM) - Category 3
		Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
		Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
		Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
		Org. Perox. C, H242	ORGANIC PEROXIDES - Type C
		Org. Perox. D, H242	ORGANIC PEROXIDES - Type D
		Org. Perox. E, H242	ORGANIC PEROXIDES - Type E
		Repr. 1B, H360D	TOXIC TO REPRODUCTION (Unborn child) - Category 1B
		Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
	Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2	
	Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1	
	STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	
	STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	

Date of issue/ Date of revision : 5/23/2018

Date of previous issue : No previous validation

Version : 1

Notice to reader

This Safety Data Sheet is prepared in accordance with Annex II (EU) No 830/2015 to Regulation (EC) No 1907/2006 (REACH). The information contained in this Safety Data Sheet is based on the present state of knowledge and current EU and national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.