ThreeBond

SAFETY DATA SHEET

ThreeBond 2706

JIS Z 7253:2019

1. Product and company identification

Product name : ThreeBond 2706

Supplier's details : ThreeBond Fine Chemical Co., Ltd.
1-1 Oyama-cho, Midori-ku, Sagamihara-shi, Kanagawa 252-0146 Japan

Emergency Telephone number : +81-42-703-7126 (Inquiries regarding SDS content)
+81-42-670-5333 (Inquiries regarding the product or SDS claim)

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

Identified uses : Cleaning agent

Uses advised against : Please be sure to confirm in advance the appropriateness and safety of using the product for the relevant application.
If the product is to be used for applications other than those recommended, please seek professional judgment.
This product is for industrial use and its use for household and medical implants is prohibited.

2. Hazards identification

GHS Classification : AEROSOLS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2B
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 88.7%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated.
H315 + H320 - Causes skin and eye irritation.
H336 - May cause drowsiness or dizziness.
H350 - May cause cancer.
H360 - May damage fertility or the unborn child.
H371 - May cause damage to organs. (circulatory system (blood, lymph, etc.))
H372 - Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS), gastrointestinal tract, liver, nervous system, respiratory organs)
H412 - Harmful to aquatic life with long lasting effects.

2. Hazards identification

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P260 - Do not breathe dust or mist.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash face, hands and any exposed skin thoroughly after handling
P251 - Do not pierce or burn, even after use.

Response : P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number	Official Gazette notice reference number	
			CSCL	ISHL
Pentane, 2-methyl-	≥60 - ≤70	CAS: 107-83-5	2-6	(2)-6
Butane	≥10 - ≤20	CAS: 106-97-8	2-4	(2)-4
Propane, 2-methyl-	≤10	CAS: 75-28-5	2-4	(2)-4
Ethanol	≤10	CAS: 64-17-5	2-202	(2)-202
Carbon dioxide	≤10	CAS: 124-38-9	1-169	(1)-169
Hexane	≤10	CAS: 110-54-3	2-6	Not available.
Acetone	≤10	CAS: 67-64-1	2-542	(2)-542

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Measured as	Status	Control number
Hexane	2.6		Class 1	392

Chemicals requiring notification

3. Composition/information on ingredients

Ingredient name	%	Status	Reference number
Hexane, (Hexane (Includes isomers of alkyl groups.)(2025-04))	≥60 - ≤70	Listed	520, 2-1861 (2025-04)
Butane	≥20 - ≤30	Listed	482
Ethanol	≤10	Listed	61, 2-205 (2025-04)
Carbon dioxide(2026-04)	≤10	Listed	2-1463 (2026-04)
Acetone	≤10	Listed	17, 2-58 (2025-04)

Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
Hexane, (Hexane (Includes isomers of alkyl groups.)(2025-04))	≥60 - ≤70	Listed	520, 2-1861 (2025-04)
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Acetone	≤10	Listed	17, 2-58 (2025-04)

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
n-Hexane	≤10	Priority assessment	3

Chemical substances that cause skin disorders, etc. and other chemical substances that must be handled with impermeable protective equipment etc. based on special chemical regulations. (Article 594-2 Paragraph 1 of Ordinance on ISH)

Ingredient name	CAS	%	Status	Remarks
n-hexane	110-54-3	≤10	Skin absorbing hazardous substances	-

4. First aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

4. First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : May cause damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation.

Eye contact : Causes eye irritation.

Ingestion : May cause damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

7. Handling and storage

Handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Storage

Conditions for safe storage : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Occupational exposure limits

Ingredient name	Exposure limits
Carbon dioxide	**Japan Society for Occupational Health (Japan, 5/2023)** OEL-M 8 hours: 5000 ppm. OEL-M 8 hours: 9000 mg/m³.
Hexane	**Japan Society for Occupational Health (Japan, 5/2023)** Absorbed through skin. OEL-M 8 hours: 40 ppm. OEL-M 8 hours: 140 mg/m³. **Industrial Safety and Health Act (Japan, 6/2020)** TWA 8 hours: 40 ppm.
Acetone	**Japan Society for Occupational Health (Japan, 5/2023)** OEL-M 8 hours: 200 ppm. OEL-M 8 hours: 475 mg/m³. **Industrial Safety and Health Act (Japan, 6/2020)** TWA 8 hours: 500 ppm.

Biological exposure indices

8. Exposure controls/personal protection

Ingredient name	Exposure indices
Hexane	**Japan Society for Occupational Health (Japan, 5/2023)** BEI: 0.3 mg/g Cr, 2,5-hexanedione [in urine]. Sampling time: end of shift at end of work week.
Acetone	**Japan Society for Occupational Health (Japan, 5/2023)** BEI: 40 mg/l, acetone [in urine]. Sampling time: within 2 h prior to end of shift.

Individual protection measures

Respiratory protection : No special protection is required. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Colorless and transparent

Odor : Solvent smell.

pH : Not available.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : Not available.

Flash point : Closed cup: -20°C (-4°F) [Tag]

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : Not available.

Relative vapor density : Not available.

9. Physical and chemical properties

Relative density : 0.67

Solubility(ies) : Not available.

Miscible with water : No.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Particle characteristics

Median particle size : Not applicable.

Other data

Aerosol product

Type of aerosol : Spray

Heat of combustion : 39.9 kJ/g

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result
n-Butane	**Rat - Inhalation - LC50 Vapor** 658000 mg/m³ [4 hours]
2-methylpropane	**Rat - Inhalation - LC50 Vapor** 658000 mg/m³ [4 hours]
Ethanol	**Rat - Oral - LD50** 7 g/kg **Rat - Inhalation - LC50 Vapor** 124700 mg/m³ [4 hours]
Hexane	**Rat - Oral - LD50** 15840 mg/kg **Rat - Inhalation - LC50 Gas.** 48000 ppm [4 hours]
Acetone	**Rat - Oral - LD50** 5800 mg/kg Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor

Acute toxicity estimates

11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
n-Butane	N/A	N/A	N/A	658	N/A
2-methylpropane	N/A	N/A	N/A	658	N/A
Ethanol	7000	N/A	N/A	124.7	N/A
Hexane	15840	N/A	48000	N/A	N/A
Acetone	5800	N/A	N/A	N/A	N/A

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name	Result
Ethanol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 400 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
Acetone	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 395 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
Ethanol	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 0.066666667 minutes Amount/concentration applied: 100 mg **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 uL **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 500 mg
Hexane	**Rabbit - Eyes - Mild irritant** Amount/concentration applied: 10 mg
Acetone	**Human - Eyes - Mild irritant** Amount/concentration applied: 186300 ppm **Rabbit - Eyes - Mild irritant** Amount/concentration applied: 10 uL **Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 20 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

11. Toxicological information

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
n-Butane	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
2-methylpropane	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (circulatory system (blood, lymph, etc.)) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Ethanol	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Carbon Dioxide	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Hexane	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Acetone	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result

11. Toxicological information

n-Butane	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1
Ethanol	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2
Hexane	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) - Category 1
Acetone	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), gastrointestinal tract, respiratory organs) - Category 1

Aspiration hazard

Product/ingredient name	Result
Hexane	ASPIRATION HAZARD - Category 1

12. Ecological information

Ecotoxicity

Product/ingredient name	Result
Ethanol	**Acute - LC50 - Fresh water** Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* 42 mg/l [4 days] Effect: Mortality **Acute - EC50 - Marine water** Algae - Green algae - *Ulva pertusa* 17.921 mg/l [96 hours] Effect: Reproduction **Chronic - NOEC - Marine water** Algae - Green algae - *Ulva pertusa* 4.995 mg/l [96 hours] Effect: Reproduction **Chronic - NOEC - Fresh water** Fish - Eastern mosquitofish - *Gambusia holbrooki* - Larvae Age: 3 days 0.375 µl/l [12 weeks] Effect: Morphology **Chronic - NOEC - Fresh water** Daphnia - Water flea - *Daphnia magna* - Neonate Age: <24 hours 100 µl/l [21 days] Effect: Mortality **Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* 2 mg/l [48 hours] Effect: Intoxication
Hexane	**Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 days; Size: 20.4 mm; Weight: 0.123 g 2500 µg/l [96 hours] Effect: Mortality
Acetone	**Acute - LC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* 10 mg/l [48 hours] Effect: Mortality **Chronic - NOEC - Marine water** Algae - Green algae - *Ulva pertusa* 4.95 mg/l [96 hours] Effect: Reproduction

12. Ecological information

Acute - EC50 - Marine water
Algae - Green algae - *Ulva pertusa*
20.565 mg/l [96 hours]
Effect: Reproduction
Chronic - NOEC - Fresh water
Crustaceans - Daphnia - *Daphniidae*
0.016 ml/l [21 days]
Effect: Population
Chronic - NOEC - Marine water
Fish - Threespine stickleback - *Gasterosteus aculeatus* - Larvae
Age: 7 days
5 µg/l [42 days]
Effect: Growth
Acute - LC50 - Fresh water
Fish - Guppy - *Poecilia reticulata*
Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g
5600 ppm [96 hours]
Effect: Mortality

Conclusion/Summary [Product]: Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product]: Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-Butane	2.89	-	Low
2-methylpropane	2.8	-	Low
Ethanol	-0.35	-	Low
Carbon Dioxide	0.83	-	Low
Hexane	4	501.187	High
Acetone	-0.23	-	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Hazardous to the ozone layer

Not applicable.

Other adverse effects

No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill

13. Disposal considerations

should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14. Transport information

	UN	IMDG	IATA
UN number	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable
Transport hazard class(es)	2.1 	2.1 	2.1 
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

UN : **Special provisions** 63, 190, 277, 327, 344, 381

IMDG : **Emergency schedules** F-D, S-U
Special provisions 63, 190, 277, 327, 344, 381, 959

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203.
Special provisions A145, A167, A802

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.

Transport in bulk according to IMO instruments : Not available.

15. Regulatory information

Fire Service Law

Class	Product name/Property	Hazard category	Precautionary statement	Designated quantity
Category IV	Class I petroleums	II	Not available.	200 L

Industrial Safety and Health Act

Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

None of the components are listed.

Organic solvents poisoning prevention : Not applicable.

Chemicals requiring notification

15. Regulatory information

Ingredient name	%	Status	Reference number
Hexane, (Hexane (Includes isomers of alkyl groups.)(2025-04))	≥60 - ≤70	Listed	520, 2-1861 (2025-04)
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Substance(s) requiring labelling

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Ingredient name	CAS	%	Status	Remarks
n-hexane	110-54-3	≤10	Skin absorbing hazardous substances	-

Carcinogens based on Paragraph 3, Article 28 of the Law

None of the components are listed.

Mutagen

None of the components are listed.

ISHL Enforcement Order Appendix 1 - Dangerous Substances : Inflammable

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
n-Hexane	≤10	Priority assessment	3

Poisonous and Deleterious Substances

None of the components are listed.

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Measured as	Status	Control number
Hexane	2.6		Class 1	392

15. Regulatory information

Law concerning prevention of pollution of the ocean : Marine pollutant: P

Explosives Control Law : Not applicable.

High Pressure Gas Control Law : Exempted

Ship Safety Law : See section 14 for more information.

Civil Aeronautics Law : See section 14 for more information.

Act on Port Regulation Law : See section 14 for more information.

16. Other information

History

Date of issue/Date of revision : 2025/03/31

Version : 1

Key to abbreviations :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
AEROSOLS - Category 1	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2B	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
TOXIC TO REPRODUCTION - Category 1A	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3	Calculation method
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3	Calculation method

References : JIS Z 7252:2019 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)".
JIS Z 7253:2019 Hazard communication of chemicals based on GHS-Labelling and Safety Data Sheet (SDS).

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