SAFETY DATA SHEET

According to JIS Z 7253:2019
Issue Date 29-May-2025
Revision Number 1.07

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Organophosphorus Pesticide Mixture Standard Solution FA-1 (each 20µg/mL)
Product Code	152-02931

Supplier
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
Fax: +81-6-6203-2029

Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses For research use only
Reference material (as defined in Japanese Industrial Standards (JIS) Q0030)

Restrictions on use Seek expert judgment when using for purposes other than those recommended.

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 2, Category 3
Category 2 blood vessels	
Category 3 Respiratory irritation, Narcotic effects	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 central nervous system, respiratory system	
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Pictograms

Signal word Danger

Hazard statements
H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H361 - Suspected of damaging fertility or the unborn child
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H371 - May cause damage to the following organs: blood vessels

H372 - Causes damage to the following organs through prolonged or repeated exposure: central nervous system, respiratory system

Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ ventilating / lighting / equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Keep cool

Precautionary statements-(Response)

- IF exposed or concerned: Get medical advice/attention
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- If skin irritation occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- In case of fire: Use suitable extinguishing media for extinction
- Collect spillage

Precautionary statements-(Storage)

- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Mixture

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Acetone	80	58.08	(2)-542	*	67-64-1
Cyclohexane	20	84.16	(3)-2233	2-(4)-1340	110-82-7
Pyridaphenthion	0.0020 w/v%	340.33	(5)-5598	N/A	119-12-0
Malathon	0.0020 w/v%	330.36	(2)-1963	*	121-75-5
Cyanofenphos	0.0020 w/v%	303.32	(3)-2624	*	13067-93-1
Quinalphos	0.0020 w/v%	298.30	N/A	8-(2)-1065	13593-03-8
Edifenphos	0.0020 w/v%	310.37	N/A	4-(9)-91	17109-49-8
alpha-Chlorfenvinphos	0.0020 w/v%	359.57	N/A	N/A	18708-86-6
(Z)-chlorfenvinphos	0.0020 w/v%	359.57	N/A	N/A	18708-87-7
Phosalone	0.0020 w/v%	367.81	N/A	8-(7)-170,8-(7)-490	2310-17-0
Iprobenfos	0.0020 w/v%	288.34	N/A	4-(9)-133	26087-47-8
CYAP	0.0020 w/v%	243.22	(3)-2625	*	2636-26-2
Pirimiphos-methyl	0.0020 w/v%	305.33	N/A	N/A	29232-93-7
Acephate	0.0020 w/v%	183.17	N/A	2-(3)-168	30560-19-1

Diazinon	0.0020 w/v%	304.35	(5)-923	*	333-41-5
Salithion	0.0020 w/v%	216.19	(5)-3864	8-(9)-24	3811-49-2
Profenofos	0.0020 w/v%	373.63	N/A	4-(9)-254	41198-08-7
Chlorpyriphos-methyl	0.0020 w/v%	322.53	N/A	8-(1)-1943	5598-13-0
Ethion	0.0020 w/v%	384.48	N/A	2-(7)-259	563-12-2
2,2-Dichlorovinyl Dimethyl Phosphate	0.0020 w/v%	220.98	(2)-3224	2-(7)-181	62-73-7
(Z)-Dimethylvinphos	0.0020 w/v%	331.52	N/A	4-(9)-145	67628-93-7
(E)-Dimethylvinphos	0.0020 w/v%	331.52	N/A	4-(9)-145	71363-52-5
Propaphos	0.0020 w/v%	304.34	N/A	N/A	7292-16-2
Cadusafos	0.0020 w/v%	270.39	N/A	2-(7)-313	95465-99-9
Fosthiazate	0.0020 w/v%	283.35	N/A	8-(7)-864	98886-44-3
Methamidophos	0.0020 w/v%	141.13	N/A	N/A	10265-92-6

Note on ISHL No.: * in the table means announced chemical substances.

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air

Special extinguishing method

No information available

Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminent and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.Use with local exhaust ventilation. To cut with care and wear protective gloves and protective goggles to ampoule time of the opening (Cutting method to check the label). Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Storage

Safe storage conditions

Storage conditions Container protected from light, and store tightly closed in freezer (-20°C). Packed with an inert gas. Store locked up.

Safe packaging material Ampoule

Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Acetone 67-64-1	200ppm(470mg/m³)	ISHL/ACL: 500 ppm	STEL: 500 ppm TWA: 750 ppm
Cyclohexane 110-82-7	TWA: 150 ppm OEL TWA: 520 mg/m³ OEL	N/A	TWA: 100 ppm
Pyridaphenthion 119-12-0	TWA: 0.2 mg/m³ OEL Skin	N/A	N/A
Malathon 121-75-5	TWA: 10 mg/m³ OEL Skin	N/A	TWA: 1 mg/m³ inhalable fraction and vapor Skin
Diazinon 333-41-5	TWA: 0.1 mg/m³ OEL Skin	N/A	TWA: 0.01 mg/m³ inhalable fraction and vapor Skin
Ethion 563-12-2	N/A	N/A	TWA: 0.05 mg/m³ inhalable fraction and vapor Skin
2,2-Dichlorovinyl Dimethyl Phosphate 62-73-7	ISHL/ACL: 0.1 mg/m³	ISHL/ACL: 0.1 mg/m³	TWA: 0.1 mg/m³ inhalable fraction and vapor Skin
Cadusafos	N/A	N/A	TWA: 0.001 mg/m³ inhalable

95465-99-9			fraction and vapor Skin

Chemical Name	Concentration standard value set by the Minister of Health, Labor and Welfare (8hr)	Concentration standard value set by the Minister of Health, Labor and Welfare (Short-Term)
Cyclohexane 110-82-7	100 ppm	N/A
Diazinon 333-41-5	0.01 mg/m^3	N/A

Personal protective equipment

Respiratory protection gas mask for organic gas (JIS T 8152)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.
If this product is classified as ”Chemical Substances Hazardous to Skin, etc.”, use appropriate protective equipment to them.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Since data of the mixture is not available, data except for the appearance is described as a Acetone.

Form	
Color	colorless
Turbidity	clear
Appearance	liquid
Odor	characteristic odor
Melting point/freezing point	-95.3 °C
Boiling point, initial boiling point and boiling range	56 °C
Flammability	Highly flammable liquid and vapor
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper:	13vom%
Lower:	2.15vol%
Flash point	-18 °C
Auto-ignition temperature:	538 °C
Decomposition temperature:	no data available
pH	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water , Ethanol , ether : freely soluble .
n-Octanol/water partition coefficient:(log Pow)	no data available
Vapour pressure	24.7 kPa
Specific Gravity / Relative density	0.792
Vapour density	2.0(air=1)
Particle characteristics	no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity no data available
Chemical stability May be altered by light.

Hazardous reactions
None under normal processing

Conditions to avoid
Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
Carbon monooxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Sulfur oxides (SOx), Phosphorus oxide, Halides

Section 11: TOXICOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone	5800 mg/kg (Rat)	> 7400 mg/kg (Rabbit)	32000 ppm (Rat) 4 h(vapor)
Cyclohexane	> 5000 mg/kg (Rat)	2000 mg/kg (Rat)	> 9500 ppmV (Rat) 4h
Pyridaphenthion	813 mg/kg (Rat) 424 mg/kg (Rat)	2100 mg/kg (Rat)	1100 mg/m³ (Rat) 4 h
Malathon	4,061 mg/kg (Rat, Female) 5,400 mg/kg (Rat, Male)	>2,000 mg/kg (Rat)	5.2 mg/kg (Rat) 4 h
Cyanofenphos	28.5 mg/kg (Rat) 28500 µg/kg (Rat)	N/A	N/A
Quinalphos	26 mg/kg (Rat)	N/A	N/A
Edifenphos	100 mg/kg (Rat)	700 - 800 mg/kg (Rat)	0.65 mg/L (Rat) 4 h 650 mg/m³ (Rat) 4 h
Phosalone	85 mg/kg (Rat)	> 1000 mg/kg (Rabbit) 390 mg/kg (Rat)	N/A
Iprobenfos	550 mg/kg (Rat) 640 mg/kg (Rat)	> 4000 mg/kg (Rat)	> 5.15 mg/L (Male) 4 h > 5.15 mg/L (Female) 4 h
CYAP	580 mg/kg (Rat)	560 mg/kg (Rat)	1.09 mg/L (Rat) 4 h
Pirimiphos-methyl	1250 mg/kg (Rat)	> 2000 mg/kg (Rat) > 2000 mg/kg (Rabbit)	> 4.7 mg/L (Rat) 4 h
Acephate	866 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 2000 mg/kg (Rat)	> 6.26 mg/L (Rat)
Diazinon	485 mg/kg (Rat)	3600 mg/kg (Rabbit)	3.10 mg/L (Rat) 4 h
Salithion	102 mg/kg (Rat)	400 mg/kg (Rat)	N/A
Profenofos	358 mg/kg (Rat) 510 mg/kg (Rat)	> 4000 mg/kg (Rat) 1610 mg/kg (Rat) 192 mg/kg (Rabbit)	> 2.2 mg/L (Rat) 4 h
Chlorpyriphos-methyl	1828 mg/kg (Rat)	> 2000 mg/kg (Rat) > 2 g/kg (Rabbit) 3713 mg/kg (Rat)	> 670 mg/m³ (Rat) 4 h
Ethion	21 mg/kg (Rat)	62 mg/kg (Rat)	= 0.45 mg/L (Rat) 4 h
2,2-Dichlorovinyl Dimethyl Phosphate	58.8 mg/kg (Rat)	113 mg/kg (Rat)	vapor : 1.66 ppm (Rat) 4 h mist : 0.34 mg/L (Rat) 4 h
Propaphos	72.5 mg/kg (Rat)	72.0 mg/kg (Rat)	0.039 mg/L (Rat) mist
Cadusafos	30 mg/kg (Rat)	11 mg/kg (Rabbit)	32 mg/m³ (Rat) 4 h
Fosthiazate	57 mg/kg (Rat)	861 mg/kg (Rat)	0.558 mg/L (Rat) 4 h
Methamidophos	21 mg/kg (Rat)	118 mg/kg (Rat)	0.162 mg/L (Rat) 4 h (mist)

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Acetone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS	Based on the NITE GHS	Based on the NITE GHS

	classification results.	classification results.	classification results.
Pyridaphenthion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Acetone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Acephate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.

Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.

Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
Malathon 121-75-5	N/A	Group 2A	N/A	Group 2B
Pirimiphos-methyl 29232-93-7	N/A	Group 2A	N/A	N/A
Diazinon 333-41-5	N/A	Group 2A	N/A	Group 2B
Salithion 3811-49-2	N/A	N/A	N/A	-
Chlorpyriphos-methyl 5598-13-0	N/A	N/A	N/A	-
Ethion 563-12-2	N/A	N/A	N/A	-
2,2-Dichlorovinyl Dimethyl Phosphate 62-73-7	N/A	Group 2B	N/A	Group 2B

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.

Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Acetone	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetone	*N/A*	*LC50 : Fathead minnow* *>100 mg/L 96 h*	*N/A*
Cyclohexane	*EC50 : Pseudokircheneriella subcapitata* *0.94 mg/L 72 h*	*LC50 : Pimephales promelas* *3.96 - 5.18 mg/L 96 h* *LC50 : Pimephales promelas* *23.03 - 42.07 mg/L 96 h* *LC50 : Lepomis macrochirus* *24.99 - 44.69 mg/L 96 h* *LC50 : Poecilia reticulata* *48.87 - 68.76 mg/L 96 h*	*EC50 : Daphinia magma* *0.9 mg/mL 48 h*
Pyridaphenthion	*N/A*	*LC50 : Oncorhynchus mykiss* *7.5 mg/L 96 h*	*EC50 : Daphnia magna* *0.00051 mg/L 48 h*
Malathon	*EC50 : Pseudokirchneriella subcapitata* *4.06 mg/L 72 h*	*LC50 : Pimephales promelas* *12.3 - 16.1 mg/L 96 h* *LC50 : Pimephales promelas* *6.45 - 11.5 mg/L 96 h* *LC50 : Pimephales promelas* *10.1 mg/L 96 h* *LC50 : Cyprinus carpio* *0.24 - 1.24 mg/L 96 h* *LC50 : Cyprinus carpio* *0.085 mg/L 96 h* *LC50 : Cyprinus carpio* *0.002 mg/L 96 h* *LC50 : Lepomis macrochirus* *0.34 mg/L 96 h*	*EC50 : Daphnia magna* *1.0 ppb 48 h*

		LC50 : Lepomis macrochirus 0.010 - 0.088 mg/L 96 h *LC50 : Lepomis macrochirus 0.089 mg/L 96 h* *LC50 : Oncorhynchus mykiss 0.028 mg/L 96 h* *LC50 : Oncorhynchus mykiss 0.094 - 0.146 mg/L 96 h* *LC50 : Oncorhynchus mykiss 0.0022 - 0.0074 mg/L 96 h* *LC50 : Oryzias latipes 9.7 mg/L 96 h* *LC50 : Poecilia reticulata 1.2 mg/L 96 h* *LC50 : Poecilia reticulata 3.1 mg/L 96 h*	
Phosalone	*N/A*	*LC50 : Lepomis macrochirus 100 ug/L 96 h*	*N/A*
Iprobenfos	*N/A*	*N/A*	*EC50 : Daphnia magna 0.859 mg/L 48 h*
CYAP	*N/A*	*N/A*	*EC50 : Daphnia magna 0.097 mg/L 48 h*
Pirimiphos-methyl	*N/A*	*LC50 : Cyprinus carpio 0.679 mg a.i./L 96 h*	*EC50 : Daphnia magna 0.000314 mg a.i./L 48 h*
Acephate	*N/A*	*LC50 : Oncorhynchus mykiss 11 mg/L 96 h* *LC50 : Pimephales promelas >10 mg/L 96 h* *LC50 : Lepomis macrochirus >10 mg/L 96 h*	*EC50 : Daphnia magna 55 mg a.i./L 48 h*
Diazinon	*N/A*	*LC50 : Pimephales promelas 0.4 - 0.8 mg/L 96 h* *LC50 : Pimephales promelas 4.7 mg/L 96 h* *LC50 : Cyprinus carpio 3.43 mg/L 96 h* *LC50 : Cyprinus carpio 0.000072 mg/L 96 h* *LC50 : Poecilia reticulata 4 mg/L 96 h* *LC50 : Poecilia reticulata 0.8 mg/L 96 h* *LC50 : Poecilia reticulata 3 mg/L 96 h* *LC50 : Lepomis macrochirus 0.022 mg/L 96 h* *LC50 : Oncorhynchus mykiss 0.09 mg/L 96 h* *LC50 : Oncorhynchus mykiss 2.3 mg/L 96 h* *LC50 : Pimephales promelas 3.4 - 5.2 mg/L 96 h* *LC50 : Lepomis macrochirus 0.31 - 0.62 mg/L 96 h*	*EC50 : Gammarus fasciatus 0.20 ppb*
Profenofos	*N/A*	*N/A*	*EC50 : Daphnia magna 0.84 µg/L 48 h*
Chlorpyriphos-methyl	*N/A*	*N/A*	*EC50 : Daphnia magna 0.62 µg/L 48 h*
Ethion	*N/A*	*N/A*	*EC50:Daphnia magna 0.056 ppb 48 h*

2,2-Dichlorovinyl Dimethyl Phosphate	*N/A*	*N/A*	*EC50 : Daphnia magna 0.00007 mg/L 48 h*
Cadusafos	*N/A*	*LC50 : Cyprinus carpio 0.246 mg a.i./L 96 h*	*EC50 : Daphnia magna 0.00257 mg a.i./L 48 h*
Fosthiazate	*ErC50 : Chlorophyta > 100 mg/L*	*N/A*	*N/A*
Methamidophos	*EC50 : Desmodesmus subspicatus 178 mg/L 96 h*	*LC50 : Leuciscus idus 34 mg/L 96 h LC50 : Oncorhynchus mykiss 40 mg/L 96 h*	*EC50 : Daphnia magna 0.014 - 0.7 mg/L 48 h*

Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Acetone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyclohexane	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Pyridaphenthion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Malathon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cyanofenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Quinalphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Edifenphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
CYAP	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Pirimiphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Acephate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diazinon	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Salithion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Profenofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chlorpyriphos-methyl	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2,2-Dichlorovinyl Dimethyl Phosphate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Propaphos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fosthiazate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Methamidophos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN1993
Proper shipping name:	Flammable liquid, n.o.s. (Acetone and Cyclohexane Mixture)
UN classfication	3
Subsidiary hazard class	
Packing group	II
Marine pollutant	Yes

IMDG

UN number	UN1993
Proper shipping name:	Flammable liquid, n.o.s. (Acetone and Cyclohexane Mixture)
UN classfication	3
Subsidiary hazard class	
Packing group	II
Marine pollutant (Sea)	Yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA

UN number	UN1993
Proper shipping name:	Flammable liquid, n.o.s. (Acetone and Cyclohexane Mixture)
UN classfication	3
Subsidiary hazard class	
Packing group	II
Environmentally Hazardous Substance	Yes

Section 15: REGULATORY INFORMATION

Japanese regulations

Fire Service Act	Category IV, Class I petroleums, dangerous grade 2 water-soluble
Poisonous and Deleterious Substances Control Law	Deleterious Substances 2nd. Grade
Industrial Safety and Health Act	Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57) Notifiable Substances (Law Art.57-2) Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5) Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
Regulations for the carriage and storage of dangerous goods in ship	Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Flammable Liquids (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)

Marine Pollution Prevention Law	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Z
Pollutant Release and Transfer Register Law (2023.4.1-)	Class 1
Class 1 - No. Narcotics and Psychotropics Control Law	629

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
Acetone 67-64-1 (80)	-	Applicable	-
Cyclohexane 110-82-7 (20)	-	Applicable	Applicable
Cyanofenphos 13067-93-1 (0.0020 w/v%)	Applicable	-	-
Quinalphos 13593-03-8 (0.0020 w/v%)	Applicable	-	-
alpha-Chlorfenvinphos 18708-86-6 (0.0020 w/v%)	Applicable	-	-
(Z)-chlorfenvinphos 18708-87-7 (0.0020 w/v%)	Applicable	-	-
Salithion 3811-49-2 (0.0020 w/v%)	Applicable	-	-
Ethion 563-12-2 (0.0020 w/v%)	Applicable	-	-
2,2-Dichlorovinyl Dimethyl Phosphate 62-73-7 (0.0020 w/v%)	Applicable	-	-
(Z)-Dimethylvinphos 67628-93-7 (0.0020 w/v%)	Applicable	-	-
(E)-Dimethylvinphos 71363-52-5 (0.0020 w/v%)	Applicable	-	-
Propaphos 7292-16-2 (0.0020 w/v%)	Applicable	-	-
Cadusafos 95465-99-9 (0.0020 w/v%)	Applicable	-	-

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Record of SDS revisions

The following contents were revised. Hazards identification. Composition/information on ingredients. Fire fighting measures. Handling and storage. Exposure controls/personal protection. Stability and reactivity. Toxicological information. Ecological information. Transport information. Regulatory information.

Disclaimer

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z 7252:2019. *JIS: Japanese Industrial Standards

End of Safety Data Sheet