

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 17-Jan-2024
 Revision Number 2.02

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Pesticide Mixture Standard Solution PL-5-1 (each 20µg/mL Acetone Solution)
Product Code	169-23001,165-23003

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
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

Serious eye damage/eye irritation

Category 2B

Reproductive Toxicity

Category 2

Specific target organ toxicity (single exposure)

Category 3

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

H320 - Causes 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

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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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	<100	58.08	(2)-542	*	67-64-1
(Z)-Dimethylvinphos	0.0020 w/v %	331.52	N/A	4-(9)-145	67628-93-7
Benfuresate	0.0020 w/v %	256.32	N/A	8-(4)-1525	68505-69-1
Benalaxyl	0.0020 w/v %	325.40	N/A	N/A	71626-11-4
Prometryn	0.0020 w/v %	241.36	(5)-3850	*	7287-19-6
Tribufos	0.0020 w/v %	314.51	N/A	N/A	78-48-8
Ethofenprox	0.0020 w/v %	376.49	(3)-3981	4-(14)-178	80844-07-1
(E)-Pyrifenox	0.0020 w/v %	295.16	N/A	8-(1)-1873	83227-22-9
Esprocarb	0.0020 w/v %	265.41	N/A	4-(6)-325	85785-20-2
Flumiclorac-pentyl	0.0020 w/v %	423.86	N/A	N/A	87546-18-7
Cadusafos	0.0020 w/v %	270.39	N/A	2-(7)-313	95465-99-9
thenylchlor	0.0020 w/v %	323.84	N/A	8-(6)-147	96491-05-3
Chlorpropham	0.0020 w/v %	213.66	(3)-3217	4-(6)-45	101-21-3
Acrinathrin	0.0020 w/v %	541.44	N/A	N/A	101007-06-1
Simetryne	0.0020 w/v %	213.30	N/A	8-(3)-237	1014-70-6
Tetraconazole	0.0020 w/v %	372.15	N/A	N/A	112281-77-3
Fensulfothion	0.0020 w/v %	308.35	N/A	N/A	115-90-2
Fluthiacet-methyl	0.0020 w/v %	403.88	N/A	N/A	117337-19-6
Pyraflufen-ethyl	0.0020 w/v %	413.18	N/A	N/A	129630-19-9
Diclocymet	0.0020 w/v %	313.22	N/A	N/A	139920-32-4
Imibenconazole-debenz	0.0020 w/v %	271.10	N/A	N/A	154221-27-9

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Zoxamide	0.0020 w/v %	336.64	N/A	N/A	156052-68-5
Isoxathion	0.0020 w/v %	313.31	N/A	N/A	18854-01-8
Propachlor	0.0020 w/v %	211.69	N/A	N/A	1918-16-7
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	0.0020 w/v %	323.30	(3)-2617	4-(3)-17	2104-64-5
Bromophos	0.0020 w/v %	366.00	N/A	4-(9)-192	2104-96-3
Dimethametryn	0.0020 w/v %	255.38	(5)-5441	N/A	22936-75-0
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
MIPC	0.0020 w/v %	193.24	(3)-2211,(3)-2212	4-(6)-184	2631-40-5
2-chloro-N-ethorymethyl-6'-ethylacet-o-toluidide	0.0020 w/v %	269.77	N/A	N/A	34256-82-1
Prothiofos	0.0020 w/v %	345.25	N/A	4-(9)-94	34643-46-4
Tricyclazole	0.0020 w/v %	189.24	N/A	8-(3)-520	41814-78-2
Bifenox	0.0020 w/v %	342.13	N/A	4-(7)-1329	42576-02-3
Pyrimethanil	0.0020 w/v %	199.25	N/A	8-(2)-1834	53112-28-0
Mepronil	0.0020 w/v %	269.34	N/A	4-(7)-1315	55814-41-0
Terbacil	0.0020 w/v %	216.66	(5)-938	*	5902-51-2
Fenothiocarb	0.0020 w/v %	253.36	1-222	4-(6)-316	62850-32-2

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 contaminant 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

Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. 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/m ³)	ISHL/ACL: 500 ppm	STEL: 500 ppm TWA: 250 ppm
Prometryn 7287-19-6	N/A	N/A	TWA: 1 mg/m ³ inhalable particulate matter
Ethofenprox 80844-07-1	TWA: 3 mg/m ³ OEL	N/A	N/A
Cadusafos 95465-99-9	N/A	N/A	TWA: 0.001 mg/m ³ inhalable fraction and vapor Skin

Fensulfothion 115-90-2	N/A	N/A	TWA: 0.01 mg/m ³ inhalable fraction and vapor Skin
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester 2104-64-5	N/A	N/A	TWA: 0.1 mg/m ³ inhalable fraction and vapor Skin
Tricyclazole 41814-78-2	TWA: 3 mg/m ³ OEL	N/A	N/A
Mepronil 55814-41-0	TWA: 5 mg/m ³ OEL	N/A	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
Skin and body protection	Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**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:	13.0 vol%
Lower:	2.15 vol%

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 , Diethyl ether : freely soluble .

n-Octanol/water partition coefficient:(log Pow)

-0.24

Vapour pressure

24.7

Specific Gravity / Relative density

0.789 - 0.792 g/mL

Vapour density

2.0

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 monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Halides, Phosphorus oxide, Sulfur oxides (SO_x)

Section 11: TOXICOLOGICAL INFORMATION

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)
Benfuresate	2031 mg/kg (Rat)	> 5 g/kg (Rat)	> 5343 mg/m ³ (Rat) 4 h
Benalaxyl	4200 mg/kg (Rat)	> 5 g/kg (Rabbit) > 5 g/kg (Rat)	> 10 g/m ³ (Rat) 4 h
Prometryn	1450 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 2.17 mg/L (Rat) 4 h mist
Tribufos	150 mg/kg (Rat)	168 mg/kg (Rat)	0.951 mg/L (Mouse) 4 h
Ethofenprox	> 2,000 mg/kg (Rat)	> 2,000 mg/kg (Rat)	> 5,900 mg/m ³ (Rat) 4 h
Esprocarb	3,700 mg/kg (Rat)	5,000 mg/kg (Rat)	N/A
Cadusafos	30 mg/kg (Rat)	11 mg/kg (Rabbit)	N/A
thenylchlor	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	N/A
Chlorpropham	4000 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 4000 mg/kg(Rat)	1.98 mg/L(Rat) 4 h mist
Acrinathrin	> 5 g/kg (Rat)	N/A	N/A
Simetryne	780 mg/kg (Rat)	> 3100 mg/kg (Rat)	> 4880 mg/m ³ (Rat) 4 h
Tetraconazole	1,030 mg/kg (Rat, Male) 1,248 mg/kg (Rat, Female)	N/A	N/A
Fensulfothion	1.8 - 2.3 mg/kg (Rat)	3.5 mg/kg (Rat)	0.0295 mg/L (Rat) 4 h
Fluthiacet-methyl	>5000 mg/kg (Rat)	>2000 mg/kg (Rat)	> 5.048 mg/L (Rat) 4 h
Diclocymet	>5000 mg/kg (Rat)	>2000 mg/kg (Rat)	N/A
Zoxamide	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	N/A
Isoxathion	112 mg/kg (Rat)	> 2000 mg/kg (Rat) 450 mg/kg (Rat)	20 mg/L (Rat)
Propachlor	710 mg/kg (Rat)	20000 mg/kg (Rabbit) 380 mg/kg (Rabbit)	N/A
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	7.7 mg/kg (Rat)	533 mg/kg (Rat)	0.121 mg/L (Rat) 4h
Bromophos	1600 mg/kg (Rat)	>5 g/kg (Rat)	N/A
Dimethametryn	2120 mg/kg (Rat)	> 2000 mg/kg (Rat)	N/A
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) 3708 mg/kg (Rat)	> 5.15 mg/L (Male) 4 h > 5.15 mg/L (Female) 4 h
MIPC	178 mg/kg (Rat)	> 500 mg/kg (Rat) 10250 mg/kg (Rabbit)	> 500 mg/m ³ (Rat) 4 h
2-chloro-N-ethorymethyl-6'-eth ylacet-o-toluidide	2953 mg/kg(Rat)	3667 mg/kg (Rabbit)	3.99 mg/L (Rat) 4 h
Prothiofos	875 mg/kg (Rat) 1700 mg/kg (Rat)	3900 mg/kg (Rat)	> 271 mg/m ³ (Rat) 4 h
Tricyclazole	250 mg/kg (Rat) 223 mg/kg (Rat)	> 5000 mg/kg (Rat) > 5 g/kg (Rat) > 2 g/kg (Rabbit)	N/A
Mepronil	> 10,000 mg/kg (Rat)	> 5,000 mg/kg (Rat)	N/A
Terbacil	> 5000 mg/kg (Rat)	> 5000 mg/kg(Rabbit)	> 4.4 mg/L(Rat)
Fenothiocarb	1150 mg/kg (Rat)	2075 mg/kg (Rat)	> 1.79 mg/L (Rat) 4 h

Chemical Name	Acute toxicity -oral- source	Acute toxicity -dermal- source	Acute toxicity -inhalation gas-
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	information	information	source information
Acetone	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Esprocarb	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.
thenylchlor	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Dimethametryn	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.
MIPC	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fenothiocarb	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.
Prometryn	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS Classification results.
Ethofenprox	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Esprocarb	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.
thenylchlor	Based on the NITE GHS	Based on the NITE GHS	Based on the NITE GHS

	classification results.	classification results.	classification results.
Chlorpropham	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Dimethametryn	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.
MIPC	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fenothiocarb	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.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thenylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.

Fenothiocarb	Based on the NITE GHS classification results.
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Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Acetone	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	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.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Acetone	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.

Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Acetone	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Prometryn 7287-19-6			A3	
Ethofenprox 80844-07-1	-	Group 2A	-	-
Cadusafos 95465-99-9		Group 2A		
Chlorpropham		Group 3		

101-21-3			
Acrinathrin 101007-06-1		Group 2A	
Fensulfothion 115-90-2		Group 2A	
Isoxathion 18854-01-8		Group 2A	
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester 2104-64-5		Group 2A	
Bromophos 2104-96-3		Group 2A	
Phosalone 2310-17-0		Group 2A	
MIPC 2631-40-5		Group 2A	
Prothiofos 34643-46-4		Group 2A	

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Acetone	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
lprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	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.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.

Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	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.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.
Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Acetone	Based on the NITE GHS classification results.
Prometryn	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.
Esprocarb	Based on the NITE GHS classification results.
Cadusafos	Based on the NITE GHS classification results.
thetylchlor	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.
Dimethametryn	Based on the NITE GHS classification results.
Phosalone	Based on the NITE GHS classification results.

Iprobenfos	Based on the NITE GHS classification results.
MIPC	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification results.
Fenothiocarb	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetone	N/A	LC50 : Fathead minnow >100 mg/L 96 h	N/A
Benfuresate	N/A	LC50 : Oncorhynchus mykiss >12.3 mg/L 96 h	LC50 : Daphnia magna > 35.4 mg/L 48 h
Prometryn	EC50 : navicula 0.001 mg/L 5 d	N/A	N/A
Tribufos	N/A	N/A	LC50: Mysisidopsis bahia 4.55 µg/L 96 h
Ethofenprox	N/A	N/A	LC50 : Mysisidopsis bahia 0.0188 µg/L 96 h
Esprocarb	ErC50 : unknown 0.066 mg/L 0 - 72 h	N/A	N/A
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
thénylchlor	ErC50 : Green arge 0.03 mg/L 72 h	N/A	N/A
Chlorpropham	EC50 : Navicula pelliculosa 1.65 mg/L 72 h	LC50 : Oncorhynchus mykiss 7.8 mg/L 96 h	EC50 : Daphnia magna 3.7 mg/L 48 h
Simetryne	ErC50 : Pseudokirchneriella subcapitata 0.028 mg/L	N/A	N/A
Fensulfothion	N/A	TLm : Lepomis macrochirus 0.12 mg/L 96 h	N/A
Fluthiacet-methyl	N/A	LC50 : Fathead minnow 0.68 ppm 48 h	LC50 : Daphnids > 2.3 ppm
Diclocymet	N/A	LC50 : 8.8mg/L 96 h	LC50 : >10 ppm 3 h
Isoxathion	N/A	LC50 : Oncorhynchus mykiss 1.3 mg / L 96 h	EC50 : Daphnia magna 0.00019 mg / L 48h
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	N/A	LC50: Lepomis macrochirus 0.060 - 0.110 mg/L 96 h LC50: Pimephales promelas 0.0648 - 0.0953 mg/L 96 h LC50: Oncorhynchus mykiss 0.110 - 0.900 mg/L 96 h LC50: Poecilia reticulata 0.032 mg/L 96 h LC50: Pimephales promelas 0.2 mg/L 96 h	EC50 : Daphnia magna 0.00006 mg/L 26 h
Dimethametryn	ErC50 : Pseudokirchneriella subcapitata 0.0124 mg/L 72 h	LC50 : Cyprinus carpio 4.45 mg/L 96 h	N/A
Phosalone	N/A	LC50 : Lepomis macrochirus 100 ug/L 96h	N/A

Iprobenfos	N/A	N/A	EC50 : <i>Daphnia magna</i> 0.859 mg/L 48h
MIPC	N/A	N/A	EC50 : <i>Daphnia magna</i> 0.024 mg/L 48 h
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	EC50 : <i>Diatomite</i> 0.0034 mg/L 96 h	LC50 : 1.3 mg/L 96 h	N/A
Tricyclazole	ErC50 : <i>Chlorophyta</i> 16 mg/L	N/A	LC50 : < 32 mg/L 96 h
Pyrimethanil	N/A	LC50: <i>Carassius auratus</i> 10.5 mg/L 96 h	N/A
Terbacil	EC50 : <i>Lemna gibba</i> 0.14 mg/L 14d NOEC : <i>Lemna gibba</i> 0.065 mg/L 14d	LC50: <i>Oncorhynchus mykiss</i> 39.7 - 53.9 mg/L 96 h LC50: <i>Lepomis macrochirus</i> 92.7 - 111.3 mg/L 96 h	LC50 : <i>grass shrimp</i> 56.4 mg/L 96 h
Fenothiocarb	N/A	EC50 : <i>Cyprinidae</i> 0.0903 mg/L 96 h	N/A

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.
Prometryn	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tribufos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethofenprox	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Esprocarb	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.
thenylchlor	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chlorpropham	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Simetryne	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tetraconazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Fensulfothion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Diclocymet	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Isoxathion	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Dimethametryn	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.
MIPC	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-chloro-N-ethoxymethyl-6'-ethylacet-o-toluidide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Prothiofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tricyclazole	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Mepronil	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Terbacil	Based on the NITE GHS classification	Based on the NITE GHS classification

	results.	results.
Fenothiocarb	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	UN1090
Proper shipping name:	Acetone
UN classification	3
Subsidiary hazard class	
Packing group	II
Marine pollutant	Yes

IMDG

UN number	UN1090
Proper shipping name:	Acetone
UN classification	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	UN1090
Proper shipping name:	Acetone
UN classification	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 3rd. 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) Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4) Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5)

Regulations for the carriage and storage of dangerous goods in ship	Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) 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 Notification for Air Transportation of Explosives etc., Attached Table 1)
Marine Pollution Prevention Law	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Z
Pollutant Release and Transfer Register Law (2023.4.1-)	Not applicable
Water Pollution Control Act	Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
Export Trade Control Order Narcotics and Psychotropics Control Law	Appendix 2 Export Approval Item
Soil Contamination Control Law	Designated Hazardous Substances

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 (<100)	-	Applicable	-
(Z)-Dimethylvinphos 67628-93-7 (0.0020 w/v %)	Applicable	-	-
Tribufos 78-48-8 (0.0020 w/v %)	Applicable	-	-
Cadusafos 95465-99-9 (0.0020 w/v %)	Applicable	-	-
Fensulfothion 115-90-2 (0.0020 w/v %)	Applicable	-	-
Phenylphosphonothioic acid O-ethyl O-(4-nitrophenyl)ester 2104-64-5 (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)
<http://www.safe.nite.go.jp/japan/db.html>
 IATA dangerous Goods Regulations
 RTECS:Registry of Toxic Effects of Chemical Substances
 Japan Industrial Safety and Health Association GHS Model SDS
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
 etc

Record of SDS revisions

The following contents were revised. Product and company Identification.
 Composition/information on ingredients. Fire fighting measures. Accidental release measures. Exposure controls/personal protection. Toxicological information. Ecological 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