Safety Data Sheet

30 Mix pesticides and herbicides in acetonitrile

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Report No.：BWN5891-2016-MSDS-US
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*Prepared according to American OSHA HCS-2024 (29 CFR 1910.1200)

1 Identification

Product identifier

Product Name	30 Mix pesticides and herbicides in acetonitrile
Cat No.	BWN5891-2016
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable

Recommended use of the product and restrictions on use

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

Details of the supplier of the Safety Data Sheet

Name of the company	Weiyel Inc
Address of the company	Hedian Light Industrial Park, Chengguan Town, Shangcheng County, Xinyang City, Henan Province, China
Post code	465350
Telephone number	010-58103678
Fax number	010-84840368
E-mail address	info@weiyel.com

Emergency phone number

Emergency phone number	010-58103678

2 Hazard(s) identification

Hazard classification according to 29 CFR 1910.1200

Flammable liquids	Category 2
Acute Toxicity - Oral	Category 4
Acute Toxicity - Dermal	Category 4
Serious eye damage/irritation	Category 2
Acute Toxicity - Inhalation	Category 4

Label elements

Hazard pictograms	
Signal word	**Danger**

Hazard statements

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H332	Harmful if inhaled

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing gas/mist/vapour/spray.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or with adequate ventilation.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P321	Specific treatment (see related instructions on the label).
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403+P235	Store in a well-ventilated place. Keep cool.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/

	international regulations.

Other hazards

	Not applicable.

Hazard description

◆ Physical and chemical hazards

	Highly flammable liquids, its vapor and air mixture can form explosive mixture.

◆ Health hazards

Inhaled	Sore throat. Weakness. Abdominal pain. Laboured breathing. Convulsions. Unconsciousness. Vomiting. Symptoms may be delayed.
Ingestion	(Further see Inhalation).
Skin Contact	Redness.
Eye	Redness. Pain.

◆ Environmental hazards

	Please refer to 12th chapter of SDS.

3 Composition/information on ingredients

Substance/mixture

	Mixture

Component	CAS No.	EC No.	Concentration (wt, %)
Acetonitrile	75-05-8	200-835-2	99.87524
Methamidophos	10265-92-6	233-606-0	0.00636
Fenamiphos	22224-92-6	244-848-1	0.00255
FenaMiphos sulfone	31972-44-8	-	0.00255
FenaMiphos sulfoxide	31972-43-7	-	0.00255
Fonofos	944-22-9	213-408-0	0.00255
Sulfotep	3689-24-5	222-995-2	0.00255
Carbofuran	1563-66-2	216-353-0	0.00636
CARBOFURAN-3-HYDROXY	16655-82-6	625-078-9	0.00636
Ethametsulfuron methyl ester	97780-06-8	619-290-0	0.00636
Metsulfuron methyl	74223-64-6	616-063-8	0.00636
Chlorsulfuron	64902-72-3	265-268-5	0.00636
Cadusafos	95465-99-9	619-129-4	0.00255
Isazofos	42509-80-8	255-863-8	0.00127
Phorate	298-02-2	206-052-2	0.00255
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	2588-03-6	-	0.00255
O,O-diethyl {[(ethanesulfonyl)methyl]s	2588-04-7	634-800-1	0.00255

ulfanyl}phosphonothioate			
Coumaphos	56-72-4	200-285-3	0.00636
Phosfolan	947-02-4	213-423-2	0.00382
Phosphamidon	13171-21-6	236-116-5	0.00636
Aldicarb	116-06-3	204-123-2	0.00636
Aldoxycarb	1646-88-4	216-710-0	0.00636
ALDICARB-SULFOXIDE	1646-87-3	-	0.00636
Monocrotophos	6923-22-4	230-042-7	0.00382
Demeton	8065-48-3	-	0.00255
Ethoprophos	13194-48-4	236-152-1	0.00255
Terbufos Sulfone	56070-16-7	-	0.00255
TERBUFOS-SULFOXIDE	10548-10-4	-	0.00255
Isocarbophos	24353-61-5	246-192-1	0.00636
Chlordimeform	6164-98-3	228-200-5	0.00255
Isofenphos-methyl	99675-03-3	-	0.00255

4 First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Ingestion	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Give plenty of water to drink. Refer for medical attention.
Inhalation	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Small fire: dry chemical, CO_2 or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.

Unsuitable extinguishing media	Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the substance or mixture

1	Will form explosive mixtures with air.
2	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
3	Vapours may travel to source of ignition and flash back.
4	Liquid and vapour are flammable.
5	May emit poisonous fumes on fire.
6	Development of hazardous combustion gases or vapor possible in the event of fire.
7	May expansion or decompose explosively when heated or involved in fire.

Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
6	Do not touch or walk through spilled material.
7	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
8	Use personal protective equipment,do not breathe gas/mist/vapour/spray.
9	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
10	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.
4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Do not touch or cross spills.
9	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-virus suits.
10	Spray water disperses the vapor and dilutes the liquid spill.
11	Do not touch broken containers and spills before putting on appropriate protective clothing.
12	Cut off the source of the leak as much as possible.
13	Keep leaks in a ventilated place.
14	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
15	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
16	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
17	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7 Handling and storage

Precautions for safe handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.
6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.

8 Exposure controls/personal protection

Control parameters

◆Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
Acetonitrile	Permissible exposure standards for workers in the workplace	40	67	60	100.5
	Australia	40	67	60	101
	Canada - Ontario	20	-	-	-
	European Union	40	70	-	-

	New Zealand	40	67	60	101
	USA - ACGIH	20	-	-	-
Methamidophos	Israel	-	1	-	-
Fenamiphos	Australia	-	0.1	-	-
	Canada - Ontario	-	0.05	-	-
	New Zealand	-	0.1	-	-
	USA - ACGIH	-	0.05(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.1	-	-
	Austria	-	0.1(inhalable aerosol)	-	0.2(inhalable aerosol)
Fonofos	Australia	-	0.1	-	-
	Canada - Ontario	-	0.01	-	-
	USA - ACGIH	-	0.1(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.1	-	-
	Austria	-	0.1	-	0.2
	Belgium	0.01	0.1	-	-
Sulfotep	Australia	0.007	0.1	-	-
	Canada - Ontario	-	0.1	-	-
	European Union	-	0.1	-	-
	New Zealand	-	0.2	-	-
	USA - ACGIH	-	0.1(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.2	-	-
Carbofuran	Permissible exposure standards for workers in the workplace	-	0.1	-	0.3
	Australia	-	0.1	-	-
	Canada - Ontario	-	0.1	-	-
	New Zealand	-	0.1	-	-
	USA - ACGIH	-	0.1(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.1	-	-
Cadusafos	USA - ACGIH	-	0.001(inhalable fraction and vapor)	-	-
Phorate	Permissible exposure standards for workers in the workplace	-	0.05	-	0.15

	Australia	-	0.05	-	0.2
	Canada - Ontario	-	0.05	-	-
	New Zealand	-	0.05	-	0.2
	USA - ACGIH	-	0.05(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.05	-	0.2
Coumaphos	Canada - Ontario	-	0.05	-	-
	USA - ACGIH	-	0.05(inhalable fraction and vapor)	-	-
	Belgium	0.003	0.05	-	-
	Ireland	-	0.05	-	-
	Spain	-	0.05	-	-
Aldicarb	USA - ACGIH	-	0.005(inhalable fraction and vapor)	-	-
Monocrotophos	Australia	-	0.25	-	-
	Canada - Ontario	-	0.05	-	-
	USA - ACGIH	-	0.05(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.25	-	-
	Austria	-	0.25(inhalable aerosol)	-	0.5(inhalable aerosol)
	Belgium	-	0.05	-	-
Demeton	Permissible exposure standards for workers in the workplace	0.01	0.11	0.03	0.33
	Australia	0.01	0.11	-	-
	Canada - Ontario	-	0.05	-	-
	USA - ACGIH	-	0.05(inhalable fraction and vapor)	-	-
	USA - NIOSH	-	0.1	-	-
	USA - OSHA	-	0.1	-	-

Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Appearance (physical state, color, etc.)	Colorless to light yellow liquid
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-46 (Acetonitrile)
Initial boiling point and boiling range(°C)	82 (Acetonitrile)
Flash point(Closed cup,°C)	2 (Acetonitrile)
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit : 17 (Acetonitrile); Lower limit : 3 (Acetonitrile)
Vapor pressure	9.9kPa (25°C,Acetonitrile)
Vapor density(Air = 1)	1.4 (Acetonitrile)
Relative density(Water=1)	0.8 (Acetonitrile)
Solubility	1000000mg/L (25 °C,Acetonitrile)
n-octanol/water partition coefficient	-0.3 (Acetonitrile)
Auto-ignition temperature(°C)	524 (Acetonitrile)
Decomposition temperature(°C)	No information available
Kinematic viscosity	No information available

10 Stability and reactivity

Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	In contact with N-halogen compounds may cause a potensive explosive hazardous.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	N - halogenated compounds, sulfuric acid and strong oxidants.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Acute toxicity

Component	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
Aldoxycarb	20mg/kg(Rat)	200mg/kg(Rabbit)	0.14mg/L(Rat)
Carbofuran	8mg/kg(Rat)	885mg/kg(Rabbit)	No information available
Isazofos	27mg/kg(Rat)	755mg/kg(Rabbit)	0.103mg/L(Rat)
Chlordimeform	160mg/kg(Rat)	640mg/kg(Rabbit)	No information available
O,O-diethyl {[(ethanesulfonyl)methyl] sulfanyl}phosphonothioate	1.2mg/kg(Rat)	No information available	No information available
Ethametsulfuron methyl ester	> 5000mg/kg(Rat)	No information available	No information available
Demeton	1.7mg/kg(Rat)	24mg/kg(Rabbit)	No information available
Ethoprophos	26mg/kg(Rat)	2.4mg/kg(Rabbit)	No information available
Coumaphos	7.1mg/kg(Rat)	500mg/kg(Rabbit)	No information available
Metsulfuron methyl	>5000mg/kg(Rat)	> 2000mg/kg(Rabbit)	> 5mg/L(Rat)
Sulfotep	5mg/kg(Rat)	20mg/kg(Rabbit)	0.038mg/L(Rat)
Acetonitrile	2460mg/kg(Rat)	> 2000mg/kg(Rabbit)	4.748mg/L(Rabbit)
Monocrotophos	14mg/kg(Rat)	270mg/kg(Rabbit)	0.063mg/L(Rat)
Fonofos	3mg/kg(Rat)	25mg/kg(Rabbit)	No information available
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	2mg/kg(Rat)	No information available	No information available
Isocarbophos	50mg/kg(Rat)	No information available	No information available
Phosfolan	8.9mg/kg(Rat)	23mg/kg(Rabbit)	No information available
Cadusafos	30mg/kg(Rat)	No information available	No information available
Chlorsulfuron	5545mg/kg(Rat)	3400mg/kg(Rabbit)	> 5.9mg/L(Rat)
Aldicarb	0.93mg/kg(Rat)	1400mg/kg(Rabbit)	No information available
Fenamiphos	15mg/kg(Rat)	178mg/kg(Rabbit)	0.091mg/L(Rat)
Phosphamidon	7mg/kg(Rat)	80mg/kg(Rabbit)	0.135mg/L(Rat)
Methamidophos	30mg/kg(Rat)	118mg/kg(Rabbit)	0.162mg/L(Rat)
CARBOFURAN-3-HYDROXY	18mg/kg(Rat)	No information available	No information available
Phorate	2mg/kg(Rat)	99mg/kg(Rabbit)	No information available
ALDICARB-SULFOXIDE	0.49mg/kg(Rat)	No information available	No information available

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP	OSHA Carcinogen List
Acetonitrile	Not Listed	Not Listed	Not Listed

Methamidophos	Not Listed	Not Listed	Not Listed
Fenamiphos	Not Listed	Not Listed	Not Listed
FenaMiphos sulfone	Not Listed	Not Listed	Not Listed
FenaMiphos sulfoxide	Not Listed	Not Listed	Not Listed
Fonofos	Not Listed	Not Listed	Not Listed
Sulfotep	Not Listed	Not Listed	Not Listed
Carbofuran	Not Listed	Not Listed	Not Listed
CARBOFURAN-3-HYDROXY	Not Listed	Not Listed	Not Listed
Ethametsulfuron methyl ester	Not Listed	Not Listed	Not Listed
Metsulfuron methyl	Not Listed	Not Listed	Not Listed
Chlorsulfuron	Not Listed	Not Listed	Not Listed
Cadusafos	Not Listed	Not Listed	Not Listed
Isazofos	Not Listed	Not Listed	Not Listed
Phorate	Not Listed	Not Listed	Not Listed
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	Not Listed	Not Listed	Not Listed
O,O-diethyl {[(ethanesulfonyl)methyl] sulfanyl}phosphonothioate	Not Listed	Not Listed	Not Listed
Coumaphos	Not Listed	Not Listed	Not Listed
Phosfolan	Not Listed	Not Listed	Not Listed
Phosphamidon	Not Listed	Not Listed	Not Listed
Aldicarb	Category 3	Not Listed	Not Listed
Aldoxycarb	Not Listed	Not Listed	Not Listed
ALDICARB-SULFOXIDE	Not Listed	Not Listed	Not Listed
Monocrotophos	Not Listed	Not Listed	Not Listed
Demeton	Not Listed	Not Listed	Not Listed
Ethoprophos	Not Listed	Not Listed	Not Listed
Terbufos Sulfone	Not Listed	Not Listed	Not Listed
TERBUFOS-SULFOXIDE	Not Listed	Not Listed	Not Listed
Isocarbophos	Not Listed	Not Listed	Not Listed
Chlordimeform	Category 3	Not Listed	Not Listed
Isofenphos-methyl	Not Listed	Not Listed	Not Listed

Others

30 Mix pesticides and herbicides in acetonitrile	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Causes serious eye irritation(Category 2)

Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Carbofuran	LC_{50} : 0.48mg/L (96h)(Fish)	EC_{50} : 0.04mg/L (48h)(Crustaceans)	ErC_{50} : 7.9mg/L (96h)(Algae)
Chlordimeform	LC_{50} : 13.2mg/L (96h)(Fish)	No information available	No information available
Ethametsulfuron methyl ester	LC_{50} : > 126mg/L (96h)(Fish)	EC_{50} : > 108mg/L (48h)(Crustaceans)	ErC_{50} : 0.421mg/L (72h)(Algae)
Demeton	LC_{50} : 0.525mg/L (96h)(Fish)	EC_{50} : 0.01mg/L (48h)(Crustaceans)	No information available
Ethoprophos	LC_{50} : 0.958mg/L (96h)(Fish)	EC_{50} : 0.09mg/L (48h)(Crustaceans)	No information available
Coumaphos	LC_{50} : 0.876mg/L (96h)(Fish)	EC_{50} : 0.000146mg/L (48h)(Crustaceans)	No information available
Metsulfuron methyl	No information available	No information available	ErC_{50} : 9.91mg/L (96h)(Algae)
Sulfotep	LC_{50} : 0.178mg/L (96h)(Fish)	EC_{50} : 0.0025mg/L (48h)(Crustaceans)	No information available
Acetonitrile	LC_{50} : > 100mg/L (96h)(Fish)	EC_{50} : > 1000mg/L (48h)(Crustaceans)	ErC_{50} : >700mg/L (72h)(Algae)
Fonofos	LC_{50} : 0.028mg/L (96h)(Fish)	EC_{50} : 0.00837mg/L (48h)(Crustaceans)	No information available
Chlorsulfuron	LC_{50} : 40mg/L (96h)(Fish)	EC_{50} : 370mg/L (48h)(Crustaceans)	ErC_{50} : 0.75mg/L (96h)(Algae)
Aldicarb	LC_{50} : 0.5mg/L (96h)(Fish)	EC_{50} : 0.06mg/L (48h)(Crustaceans)	No information available
Fenamiphos	LC_{50} : 0.0721mg/L (96h)(Fish)	EC_{50} : 0.00175mg/L (48h)(Crustaceans)	ErC_{50} : 38.5mg/L (96h)(Algae)
Phosphamidon	LC_{50} : 7.8mg/L (96h)(Fish)	EC_{50} : 0.01mg/L (48h)(Crustaceans)	No information available
Methamidophos	LC_{50} : 51mg/L (96h)(Fish)	EC_{50} : 0.02mg/L (48h)(Crustaceans)	No information available
Phorate	LC_{50} : 0.0101mg/L (96h)(Fish)	EC_{50} : 0.01mg/L (48h)(Crustaceans)	No information available

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Ethametsulfuron methyl	NOEC : 5.4mg/L(Fish)	No information available	No information available

ester			
Acetonitrile	NOEC：102mg/L(Fish)	NOEC：>960mg/L(Crustaceans)	NOEC：700mg/L(Algae)

Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Methamidophos	High	High
Fenamiphos	High	High
Fonofos	High	High
Sulfotep	High	High
Carbofuran	High	High
Metsulfuron methyl	High	High
Chlorsulfuron	High	High
Phorate	High	High
Coumaphos	High	High
Phosfolan	High	High
Phosphamidon	High	High
Aldicarb	High(Half-life = 635 days)	Low(Half-life = 0.4 days)
Monocrotophos	High	High
Demeton	High	High
Ethoprophos	High	High
Isocarbophos	High	High
Chlordimeform	High	High

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Methamidophos	Low	Log Kow=-0.66
Fenamiphos	Low	Log Kow=3.3
Fonofos	Medium	Log Kow=3.94
Sulfotep	Medium	Log Kow=3.99
Carbofuran	Low	Log Kow=2.32
Metsulfuron methyl	Low	Log Kow=1.7626
Chlorsulfuron	Low	Log Kow=2.5719
Phorate	Low	Log Kow=3.9
Coumaphos	Medium	Log Kow=4.13
Phosfolan	Low	Log Kow=1.1673
Phosphamidon	Low	Log Kow=0.8
Aldicarb	Low	Log Kow=1.36
Monocrotophos	Low	Log Kow=-0.2

Demeton	Low	Log Kow=2.0926
Ethoprophos	Low	Log Kow=3.59
Isocarbophos	Low	Log Kow=2.7071
Chlordimeform	Low	Log Kow=2.89

Mobility in soil

Component	log Koc	Remark
Acetonitrile	0.653	
Methamidophos	0.585	
Fenamiphos	2.028	
Fonofos	2.922	
Sulfotep	3.587	
Carbofuran	1.850	
Ethametsulfuron methyl ester	2.344	
Metsulfuron methyl	2.592	
Chlorsulfuron	3.131	
Phorate	2.647	
Coumaphos	3.580	
Phosfolan	2.488	
Phosphamidon	3.363	
Aldicarb	1.512	
Monocrotophos	2.365	
Demeton	2.478	
Ethoprophos	2.212	
Isocarbophos	2.493	
Chlordimeform	3.490	

13 Disposal considerations

Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	

IMDG-CODE

UN number	3021
UN proper shipping name	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S. , flashpoint less than 23℃
Transport hazard class	3
Transport subsidiary hazard class	6.1
Packing group	Ⅱ
Marine pollutant (Yes or no)	No

IATA-DGR

UN number	3021
UN proper shipping name	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash point less than 23℃
Transport hazard class	3
Transport subsidiary hazard class	6.1
Packing group	Ⅱ

UN-ADR

UN number	3021
UN proper shipping name	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash point less than 23℃
Transport hazard class	3
Transport subsidiary hazard class	6.1
Packing group	Ⅱ

Transport in bulk according to IMO instruments

◆ Transport in bulk according to Annex II of MARPOL and the IBC code

Not Available

◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Not Available

◆ Transport in bulk in accordance with the IGC Code

Not Available

Others

Precautions for transport	Transit should be anti-exposure, rain, high temperature. Strictly prohibited shipping or transportation with acids, alkalis, oxidants, food and food additives etc. Shipment of the goods vehicle exhaust pipe must be equipped with fire retardant devices, prohibit using mechanical equipment and tools of which easy to produce sparks. Transit should be anti-exposure, anti-rain, anti-high temperature. Transportation used tank (tank) cars should be grounded chain, tank can be installed to reduce the partition hole static electricity shocks. Strictly prohibited shipping or transportation with oxidants, acids, food and food additives etc. When bulk transport, Prohibit the use of cement or wooden boats. Transport

	vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.

15 Regulatory information

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Acetonitrile	√	√	√	√	√	√	√	√	√	√	√	√	√
Methamidophos	√	√	×	×	×	×	√	√	×	×	√	√	√
Fenamiphos	√	√	×	×	×	×	√	×	√	×	√	√	√
FenaMiphos sulfone	×	×	×	×	×	×	×	×	×	×	×	√	√
FenaMiphos sulfoxide	×	×	×	×	×	×	×	×	×	×	×	√	×
Fonofos	√	√	×	×	×	×	√	×	×	×	√	√	√
Sulfotep	√	√	×	×	√	√	√	×	×	×	√	√	√
Carbofuran	√	√	√	×	×	√	√	×	√	×	√	√	√
CARBOFURAN-3-HYDROXY	×	×	×	×	×	×	×	×	×	×	×	√	√
Ethametsulfuron methyl ester	×	×	×	×	×	×	×	×	×	×	×	√	×
Metsulfuron methyl	√	×	×	×	√	×	×	×	×	×	√	√	√
Chlorsulfuron	√	√	×	×	√	×	×	×	×	×	×	√	√
Cadusafos	×	×	×	×	×	×	√	×	×	×	√	√	√
Isazofos	×	√	×	×	×	×	√	×	×	×	√	√	√
Phorate	√	√	×	×	×	×	√	×	×	×	√	√	√
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	√	×	×	×	×	×	×	×	×	×	×	√	×
O,O-diethyl {[(ethanesulfonyl)methyl]sulfanyl}phosphonothioate	×	×	×	×	×	×	×	×	×	×	×	√	×
Coumaphos	√	√	×	×	√	√	√	×	√	×	√	√	√
Phosfolan	√	√	√	×	×	×	√	×	×	×	×	√	×
Phosphamidon	√	√	×	×	×	×	√	×	×	×	×	√	√
Aldicarb	√	√	√	×	√	√	√	×	×	×	√	√	√
Aldoxycarb	×	√	×	×	×	×	√	×	×	×	√	√	√
ALDICARB-SULFOXIDE	×	×	×	×	×	×	×	×	×	×	×	√	√
Monocrotophos	√	√	×	×	×	√	√	×	×	×	√	√	√
Demeton	√	×	×	×	×	×	√	×	×	×	√	√	×
Ethoprophos	√	√	×	×	×	×	√	×	×	×	√	√	√
Terbufos Sulfone	×	×	×	×	×	×	×	×	×	×	×	×	×

TERBUFOS-SULFOXIDE	×	×	×	×	×	×	×	×	×	×	×	×	√
Isocarbophos	×	√	×	×	×	×	×	×	×	×	×	√	√
Chlordimeform	√	√	×	×	×	×	√	×	√	×	√	√	√
Isofenphos-methyl	×	×	×	×	×	×	×	×	×	×	×	√	√

【A】 China Inventory of Existing Chemical Substances(IECSC)
【B】 European Inventory of Existing Commercial Chemical Substances(EC inventory)
【C】 United States Toxic Substances Control Act Inventory(TSCA)
【D】 Canadian Domestic Substances List(DSL)
【E】 New Zealand Inventory of Chemicals(NZIoC)
【F】 Philippines Inventory of Chemicals and Chemical Substances(PICCS)
【G】 Korea Existing Chemicals Inventory(KECL)
【H】 Australian. Inventory of Industrial Chemical (AIICS)
【I】 Japan Inventory of Existing & New Chemical Substances(ENCS)
【J】 Thailand Existing Chemicals Inventory(TECI)
【K】 Mexico National Inventory of Chemical Substances (INSQ)
【L】 Russia Inventory of Existing Substances (DRAFT)
【M】 Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
Acetonitrile	×	×	×
Methamidophos	×	×	√
Fenamiphos	×	×	×
FenaMiphos sulfone	×	×	×
FenaMiphos sulfoxide	×	×	×
Fonofos	×	×	×
Sulfotep	×	×	×
Carbofuran	×	×	√
CARBOFURAN-3-HYDROXY	×	×	×
Ethametsulfuron methyl ester	×	×	×
Metsulfuron methyl	×	×	×
Chlorsulfuron	×	×	×
Cadusafos	×	×	×
Isazofos	×	×	×
Phorate	×	×	√
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	×	×	×
O,O-diethyl {[(ethanesulfonyl)methyl] sulfanyl}phosphonothioate	×	×	×
Coumaphos	×	×	×
Phosfolan	×	×	×

Phosphamidon	×	×	√
Aldicarb	×	×	√
Aldoxycarb	×	×	×
ALDICARB-SULFOXIDE	×	×	×
Monocrotophos	×	×	√
Demeton	×	×	×
Ethoprophos	×	×	×
Terbufos Sulfone	×	×	×
TERBUFOS-SULFOXIDE	×	×	×
Isocarbophos	×	×	×
Chlordimeform	×	×	√
Isofenphos-methyl	×	×	×

【A】 The Montreal Protocol on Substances that Deplete the Ozone Layer
【B】 Stockholm Convention on Persistent Organic Pollutants (POPs)
【C】 Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade

US chemical inventory

Component	A	B	C	D	E	F	G	H
Acetonitrile	√	×	√	√	√	√	√	×
Methamidophos	×	√	×	√	√	√	√	×
Fenamiphos	×	√	×	√	√	√	√	×
FenaMiphos sulfone	×	×	×	×	×	×	×	×
FenaMiphos sulfoxide	×	×	×	×	×	×	×	×
Fonofos	×	√	×	√	√	√	√	×
Sulfotep	×	√	√	√	√	√	√	×
Carbofuran	×	√	√	√	√	√	√	×
CARBOFURAN-3-HYDROXY	×	×	×	×	×	×	×	×
Ethametsulfuron methyl ester	×	×	×	×	×	×	×	×
Metsulfuron methyl	×	×	×	×	×	×	×	×
Chlorsulfuron	×	×	×	×	√	×	×	×
Cadusafos	×	×	×	×	×	×	×	×
Isazofos	×	×	×	√	×	×	×	×
Phorate	×	√	√	√	√	√	√	×
O,O-diethyl-s-(ethyl sulfoxidomethyl) dithiophosphate emulsion	×	×	×	×	×	×	×	×
O,O-diethyl {[(ethanesulfonyl)methyl]sulfanyl}phosphonothioate	×	×	×	×	×	×	×	×

Coumaphos	×	√	√	√	√	√	√	×
Phosfolan	×	√	×	√	√	√	√	×
Phosphamidon	×	√	×	√	√	√	√	×
Aldicarb	×	√	√	√	√	√	√	×
Aldoxycarb	×	×	√	×	√	×	×	×
ALDICARB-SULFOXIDE	×	×	×	×	×	×	×	×
Monocrotophos	×	√	×	√	√	√	√	×
Demeton	×	√	×	√	√	√	√	×
Ethoprophos	×	√	×	√	√	√	√	√
Terbufos Sulfone	×	×	×	×	×	×	×	×
TERBUFOS-SULFOXIDE	×	×	×	×	×	×	×	×
Isocarbophos	×	×	×	×	×	×	×	×
Chlordimeform	×	×	×	√	×	×	×	√
Isofenphos-methyl	×	×	×	×	×	×	×	×

[A] US Clean Air Act (CAA)- Section 112, Hazardous Air Pollutants
[B] US SARA 302- Extremely Hazardous Substance List
[C] US CERCLA- Hazardous Substances List
[D] US Massachusetts Right-to-Know Substance List
[E] US New Jersey Right to Know Hazardous Substance List
[F] US Pennsylvania Right to Know Hazardous Substance List
[G] US New York City Right-to-Know Hazardous Substance List
[H] US California Proposition 65 List

Note:
"√" Indicates that the substance included in the regulations.
"×" No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2025/10/28
Revision Date	-
Reason for revision	-

Reference

[1] IPCS: The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home.
[2] IARC, website: http://www.iarc.fr/.
[3] OECD: The Global Portal to Information on Chemical Substances, website: https://www.echemportal.org/echemportal/.
[4] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple.
[5] NLM: ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp.
[6] EPA: Integrated Risk Information System, website: http://cfpub.epa.gov/iris/.
[7] U.S. Department of Transportation: ERG, website: http://www.phmsa.dot.gov/hazmat/library/erg.
[8] Germany GESTIS-database on hazard substance, website: http://gestis-en.itrust.de/.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE

MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC_{50}	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD_{50}	Lethal Dose 50%	NTP	National Toxicology Program
EC_{50}	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC_X	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P_{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor	HCS	Hazard Communication Standard

Disclaimer

This Safety Data Sheet (SDS) was prepared according to OSHA HCS-2024. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.