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

1.1 Product identifiers

Product name : Organophosphorus Pesticides Mix A

Product Number : 48391
Brand : Supelco
REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3

1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids, (Category 2)	H225: Highly flammable liquid and vapor.
Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Acute toxicity, (Category 4)	H332: Harmful if inhaled.
Acute toxicity, (Category 3)	H311: Toxic in contact with skin.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Reproductive toxicity, (Category 2)	H361f: Suspected of damaging fertility.
Specific target organ toxicity - single exposure, (Category 3),	H336: May cause drowsiness or dizziness.

Central nervous system	
Specific target organ toxicity - repeated exposure, (Category 1), Nervous system	H372: Causes damage to organs through prolonged or repeated exposure if inhaled.
Aspiration hazard, (Category 1)	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, (Category 1)	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal Word	Danger
Hazard Statements	
H225	Highly flammable liquid and vapor.
H302 + H332	Harmful if swallowed or if inhaled.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P331	Do NOT induce vomiting.
Supplemental Hazard Statements	none
EUH208	Contains: Ethoprophos, Dichlorvos, Azinphos-methyl. May produce an allergic reaction.

Reduced Labeling (<= 125 ml)
Pictogram

Signal Word	Danger

Hazard Statements	
H311	Toxic in contact with skin.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H304	May be fatal if swallowed and enters airways.
H361f	Suspected of damaging fertility.
Precautionary Statements	
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component		Classification	Concentration
n-Hexane			
CAS-No. EC-No. Index-No. Registration number	110-54-3 203-777-6 601-037-00-0 01-2119480412-44-XXXX	Flam. Liq. 2; Skin Irrit. 2; Repr. 2; STOT SE 3; STOT RE 1; Asp. Tox. 1; Aquatic Chronic 2; H225, H315, H361f, H336, H372, H304, H411 Concentration limits: >= 5 %: STOT RE 2, H373; >= 20 %: STOT SE 3, H336;	>= 70 - < 90 %
acetone			
CAS-No. EC-No. Index-No. Registration number	67-64-1 200-662-2 606-001-00-8 01-2119471330-49-XXXX	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336 Concentration limits: >= 20 %: STOT SE 3, H336;	>= 1 - < 10 %

Ethoprophos			
CAS-No. EC-No. Index-No.	13194-48-4 236-152-1 015-107-00-8 *	Acute Tox. 2; Acute Tox. 1; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H300, H330, H310, H317, H400, H410 M-Factor - Aquatic Acute: 10	>= 0,1 - < 0,25 %
Chlorpyrifos			
CAS-No. EC-No. Index-No.	2921-88-2 220-864-4 015-084-00-4 *	Acute Tox. 3; Aquatic Acute 1; Aquatic Chronic 1; H301, H400, H410	>= 0,1 - < 0,25 %
Parathion - methyl			
CAS-No. EC-No. Index-No.	298-00-0 206-050-1 015-035-00-7 *	Flam. Liq. 3; Acute Tox. 2; Acute Tox. 3; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H226, H300, H330, H311, H373, H400, H410 M-Factor - Aquatic Acute: 100 - Aquatic Chronic: 100	>= 0,1 - < 0,25 %
Disulfoton			
CAS-No. EC-No. Index-No.	298-04-4 206-054-3 015-060-00-3 *	Acute Tox. 2; Acute Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H300, H310, H400, H410 M-Factor - Aquatic Acute: 100 M-Factor - Aquatic Chronic: 100	>= 0,1 - < 0,25 %
Ectoral			
CAS-No. EC-No. Index-No.	299-84-3 206-082-6 015-052-00-X *	Acute Tox. 4; Acute Tox. 3; Aquatic Acute 1; Aquatic Chronic 1; H302, H311, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 10	>= 0,1 - < 0,25 %
O-(2,4-Dichlorophenyl) O-ethyl S-propyl dithiophosphate			
CAS-No. EC-No.	34643-46-4 252-125-7 *	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	>= 0,1 - < 0,25 %

Dichlorvos			
CAS-No. EC-No. Index-No.	62-73-7 200-547-7 015-019-00-X *	Acute Tox. 2; Skin Sens. 1; Aquatic Acute 1; H300, H300, H330, H310, H310, H317, H400 M-Factor - Aquatic Acute: 1.000	>= 0,1 - < 0,25 %
Azinphos-methyl			
CAS-No. EC-No. Index-No.	86-50-0 201-676-1 015-039-00-9 *	Acute Tox. 2; Acute Tox. 1; Acute Tox. 3; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H300, H330, H311, H317, H400, H410 M-Factor - Aquatic Acute: 10	>= 0,1 - < 0,25 %

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, or the annual tonnage does not require a registration.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class
Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,4 mm
Break through time: 480 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,2 mm
Break through time: 30 min
Material tested:Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	liquid
b)	Color	No data available
c)	Odor	No data available
d)	Melting point/freezing point	No data available
e)	Initial boiling point and boiling range	No data available
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available
h)	Flash point	-26,0 °C - closed cup
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	No data available
n)	Partition coefficient: n-octanol/water	No data available
o)	Vapor pressure	No data available
p)	Density	No data available
	Relative density	No data available
q)	Relative vapor	No data available

density

r)	Particle characteristics	No data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	none

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
Vapors may form explosive mixture with air.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Warming.

10.5 Incompatible materials
Bases, Oxidizing agents, Strong oxidizing agents, Reducing agents, Brass, Acetone reacts violently with phosphorous oxychloride.

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity
Oral: No data available
Acute toxicity estimate Oral - 754,29 mg/kg
(Calculation method)
Acute toxicity estimate Inhalation - 4 h - 11,38 mg/l - vapor(Calculation method)

Acute toxicity estimate Dermal - 702,78 mg/kg
(Calculation method)

Skin corrosion/irritation
Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
Mixture may produce an allergic reaction.

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
Evidence to impair fertility.

Specific target organ toxicity - single exposure
Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure
Mixture causes damage to organs through prolonged or repeated exposure.
- Nervous system

Aspiration hazard
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Effects due to ingestion may include:, Gastrointestinal discomfort, Central nervous system depression, Lung irritation, chest pain, pulmonary edema
Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components

n-Hexane

Acute toxicity
LD50 Oral - Rat - male and female - 16.000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 172 mg/l - vapor
Remarks: (RTECS)
LD50 Dermal - Rabbit - male - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Skin irritation - 24 h
(OECD Test Guideline 404)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 72 h

(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 478
Species: Mouse - male
Result: negative
Method: OECD Test Guideline 475
Species: Rat - male and female - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure
Inhalation - Causes damage to organs through prolonged or repeated exposure. - Nervous system

Aspiration hazard
Aspiration may cause pulmonary edema and pneumonitis.

acetone

Acute toxicity
LD50 Oral - Rat - female - 5.800 mg/kg
Remarks: (ECHA)
Symptoms: Stomach/intestinal disorders, Risk of aspiration upon vomiting., Pulmonary failure possible after aspiration of vomit.
LC50 Inhalation - Rat - 4 h - 76 mg/l - vapor
Remarks: Unconsciousness
Drowsiness
Dizziness
(External MSDS)
LD50 Dermal - Rabbit - 20.000 mg/kg
Remarks: (IUCLID)

Skin corrosion/irritation
Skin - Rabbit
Result: Mild skin irritation - 24 h
(Draize Test)
Remarks: (RTECS)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation - 24 h
(Draize Test)
Remarks: (RTECS)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
Remarks: (ECHA)
Chronic exposure may cause dermatitis.

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster ovary cells
Result: negative
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause drowsiness or dizziness. - Narcotic effects
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Acute oral toxicity - Stomach/intestinal disorders, Risk of aspiration upon vomiting., Pulmonary failure possible after aspiration of vomit.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Ethoprophos

Acute toxicity
LD50 Oral - Rat - 34 mg/kg
LC50 Inhalation - 4 h - 0,05 mg/l - vapor
LD50 Dermal - Rabbit - 2,4 mg/kg
LD50 Dermal - 5 mg/kg

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Chlorpyrifos

Acute toxicity
LD50 Oral - Rat - 82 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Oral - 82 mg/kg
(ATE value derived from LD50/LC50 value)
LC50 Inhalation - Rat - 4 h - > 200 mg/m3 - dust/mist
Remarks: (RTECS)
LD50 Dermal - Rabbit - male and female - > 5.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Buehler Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative
Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Result: negative
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male - Bone marrow

Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Parathion - methyl

Acute toxicity
LD50 Oral - Rat - 6,01 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Oral - 6,01 mg/kg
(ATE value derived from LD50/LC50 value)
Acute toxicity estimate Inhalation - 4 h - 0,51 mg/l - vapor
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
LD50 Dermal - Rabbit - 300 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Dermal - 300 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: Positive results were obtained in some in vitro tests.
Remarks: (Lit.)
Test Type: Ames test
Test system: Escherichia coli
Result: negative
Remarks: (Lit.)
Test Type: Chromosome aberration test in vitro
Test system: mammalian cells
Result: positive
Remarks: (Lit.)
Species: Mouse - Bone marrow
Result: positive
Remarks: (Lit.)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard
No data available

Disulfoton

Acute toxicity
Acute toxicity estimate Oral - 5,1 mg/kg
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
LC50 Inhalation - Rat - 200 mg/m3 - vapor
Remarks: (RTECS)
LD50 Dermal - Rat - 3,6 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Dermal - 3,6 mg/kg
(Calculation method)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Ectoral

Acute toxicity
LD50 Oral - Rat - 625 mg/kg
Remarks: (RTECS)
Inhalation: No data available
LD50 Dermal - Rabbit - 1.000 mg/kg
Remarks: (RTECS)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Human
Test system: lymphocyte
Remarks: Sister chromatid exchange

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

O-(2,4-Dichlorophenyl) O-ethyl S-propyl dithiophosphate

Acute toxicity
LD50 Oral - Rat - 875 mg/kg
Remarks: Biochemical:Enzyme inhibition, induction, or change in blood or tissue levelsTrue cholinesterase.
(RTECS)
Acute toxicity estimate Oral - 875 mg/kg
(ATE value derived from LD50/LC50 value)
LC50 Inhalation - Rat - 4 h - 2,7 mg/l - vapor
LD50 Dermal - Rat - 3.900 mg/kg
Remarks: (RTECS)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Dichlorvos

Acute toxicity
LD50 Oral - Rat - 17 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Oral - 17 mg/kg
(ATE value derived from LD50/LC50 value)
Acute toxicity estimate Inhalation - 4 h - 0,51 mg/l - vapor
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
LD50 Dermal - Rabbit - 107 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Dermal - 107 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
May cause allergic skin reaction. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Azinphos-methyl

Acute toxicity
LD50 Oral - Rat - 4 mg/kg
Remarks: (RTECS)
LC50 Inhalation - Rat - 4 h - 0,107 mg/l - dust/mist
Remarks: (Lit.)
LD50 Dermal - Rat - 88 mg/kg
Remarks: (RTECS)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: positive
May cause allergic skin reaction.
Remarks: (Lit.)

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Components

n-Hexane

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 2,5 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 2,1 mg/l - 48 h Remarks: (Lit.)

acetone

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 6.210 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Daphnia pulex (Water flea) - 8.800 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test NOEC - M.aeruginosa - 530 mg/l - 8 d (DIN 38412) Remarks: (maximum permissible toxic concentration) (IUCLID)
Toxicity to bacteria	static test EC50 - activated sludge - 61,15 mg/l - 30 min (OECD Test Guideline 209)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 2.212 mg/l - 28 d Remarks: (ECHA)

Ethoprophos

Toxicity to fish	LC50 - Cyprinus carpio (Carp) - 0,64 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0,09 mg/l - 48 h

Chlorpyrifos

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - 0,1 mg/l - 96 h

	(OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 0,000214 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 0,73 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Pimephales promelas (fathead minnow) - 0,0005679 mg/l - 32 d
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	static test NOEC - Daphnia magna (Water flea) - 0,000056 mg/l - 21 d (OECD Test Guideline 202)

Parathion - methyl

Toxicity to fish	flow-through test LC50 - Morone saxatilis (Striped bass) - 0,79 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - 0,0087 mg/l - 48 h (US-EPA)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - 15 mg/l - 72 h Remarks: (ECOTOX Database)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Cyprinodon variegatus (sheepshead minnow) - 0,00019 mg/l - 28 d (US-EPA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	static test NOEC - Daphnia magna (Water flea) - 0,16 mg/l - 21 d (US-EPA)
	NOEC - Ceriodaphnia dubia (water flea) - 0,001 mg/l - 7 d Remarks: (ECOTOX Database)

Disulfoton

Toxicity to fish	LC50 - Lepomis macrochirus (Bluegill) - 0,07 mg/l - 96,0 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0,01 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	EC50 - Desmodesmus subspicatus (green algae) - 11 mg/l - 72 h

Remarks: (ECOTOX Database)

Ectoral

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 0,6 mg/l - 96,0 h

O-(2,4-Dichlorophenyl) O-ethyl S-propyl dithiophosphate

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0,014 mg/l - 48 h

Dichlorvos

No data available

Azinphos-methyl

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,0029 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - 0,0044 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Cyprinodon variegatus (sheepshead minnow) - 0,00017 mg/l - 28 d Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 0,00025 mg/l - 21 d Remarks: (ECOTOX Database)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1992 IMDG: 1992 IATA: 1992

14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, TOXIC, N.O.S. (n-Hexane, Ethoprophos)

IMDG: FLAMMABLE LIQUID, TOXIC, N.O.S. (n-Hexane, Ethoprophos)
IATA: Flammable liquid, toxic, n.o.s. (n-Hexane, Ethoprophos)

14.3 Transport hazard class(es)
ADR/RID: 3 (6.1) IMDG: 3 (6.1) IATA: 3 (6.1)

14.4 Packaging group
ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user
Tunnel restriction code : (D/E)

Further information : No data available

14.7 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors : acetone

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS
	E1	ENVIRONMENTAL HAZARDS

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

H330	Fatal if inhaled.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Classification of the mixture		**Classification procedure:**
Flam. Liq.2	H225	Based on product data or assessment
Acute Tox.4	H302	Calculation method
Acute Tox.4	H332	Calculation method
Acute Tox.3	H311	Calculation method
Skin Irrit.2	H315	Calculation method

Repr.2	H361f	Calculation method
STOT SE3	H336	Calculation method
STOT RE1	H372	Calculation method
Asp. Tox.1	H304	Calculation method
Aquatic Acute1	H400	Calculation method
Aquatic Chronic1	H410	Calculation method

Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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