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1 Identification

- · Product identifier
- · Product Name: <u>ANALYTE MIX</u>
- · Part Number: 8141-AB
- · Application of the substance / the mixture Certified Reference Material
- Details of the supplier of the safety data sheet
 Manufacturer/Supplier:
 SPEX CertiPrep, LLC.
 203 Norcross Ave, Metuchen,
 NJ 08840 USA
- Information department: product safety department • Emergency telephone number: Emergency Phone Number (24 hours) CHEMTREC (800-424-9300) Outside US: 703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture



Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Repr. 2H361Suspected of damaging fertility or the unborn child.STOT RE 2H373May cause damage to organs through prolonged or repeated exposure.Asp. Tox. 1H304May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- · Label elements
- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms



- · Signal word Danger
- Hazard-determining components of labeling: n-hexane
- acetone
 Hazard statements
- Highly flammable liquid and vapor.
- Causes skin irritation.
- Causes serious eye irritation.
- Suspected of damaging fertility or the unborn child.
- May cause drowsiness or dizziness.
- May cause damage to organs through prolonged or repeated exposure.
- May be fatal if swallowed and enters airways.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)

Health = 2Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH *2 Health = *2FIRE 3 Fire = 3Reactivity = 0REACTIVITY 0

· Other hazards

· Results of PBT and vPvB assessment

- · PBT: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

110-54-3 n-	components:	49.75%
67-64-1 ad		49.75%
Chemical id	dentification of the substance/preparation	
	azinphos-ethyl (ISO)	0.02%
	trichlorfon (ISO)	0.02%
	fenitrothion (ISO)	0.02%
732-11-6	phosmet (ISO)	0.02%
21609-90-5	leptophos (ISO)	0.02%
121-75-5	malathion (ISO)	0.02%
	O, O, O', O'-tetrapropyl dithiopyrophosphate	0.02%
6923-22-4	monocrotophos (ISO)	0.02%
470-90-6	chlorfenvinphos (ISO)	0.02%
786-19-6	carbophenothion (ISO)	0.02%
5598-13-0	chlorpyrifos-methyl	0.02%
13171-21-6	phosphamidon	0.02%
7700-17-6	crotoxyphos (ISO)	0.02%
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	0.02%
107-49-3	TEPP (ISO)	0.02%
3689-24-5	sulfotep (ISO)	0.02%
97-17-6	dichlofenthion	0.02%
141-66-2	(E)-3-(dimethylamino)-1-methyl-3-oxoprop-1-enyl dimethyl phosphate	0.02%
78-34-2	dioxathion (ISO)	0.02%
60-51-5	dimethoate (ISO)	0.02%
944-22-9	fonofos (ISO)	0.02%
297-97-2	0,0-diethyl 0-pyrazin-2-yl phosphorothioate	0.02%
2104-64-5	O-ethyl O-4-nitrophenyl phenylphosphonothioate	0.02%
563-12-2	ethion (ISO)	0.02%
56-38-2	parathion (ISO)	0.02%

4 First-aid measures

· Description of first aid measures

· General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

• After inhalation: In case of unconsciousness place patient stably in side position for transportation.

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- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: Immediately call a doctor.
- Information for Doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.
- 5 Fire-fighting measures
- · Extinguishing media
- · Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

- · Reference to other sections
- See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

· Handling:

- · Precautions for safe handling
- Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.
- · Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Com	ponents with limit values that require monitoring at the workplace:
110-5	54-3 n-hexane
PEL	Long-term value: 1800 mg/m ³ , 500 ppm
REL	Long-term value: 180 mg/m ³ , 50 ppm
TLV	Long-term value: 176 mg/m ³ , 50 ppm
	Skin; BEI
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	14-1 acetone
	Long-term value: 2400 mg/m³, 1000 ppm
	Long-term value: 590 mg/m ³ , 250 ppm
TLV	Short-term value: 1187 mg/m ³ , 500 ppm
	Long-term value: 594 mg/m³, 250 ppm BEI
52.6	8-6 trichlorfon (ISO)
	Long-term value: 1* mg/m ³
ILV	BEI-A;*as inhalable fraction
3689	D-24-5 sulfotep (ISO)
	Long-term value: 0.2 mg/m ³
	Skin
REL	Long-term value: 0.2 mg/m ³
	Skin
TLV	Long-term value: 0.1* mg/m ³
	Skin; BEI-A;*as inhalable fraction and vapor
	4-2 dioxathion (ISO)
REL	Long-term value: 0.2 mg/m ³
	Skin
TLV	Long-term value: $0.1*$ mg/m ³
= < 2	Skin; BEI-A;*as inhalable fraction and vapor
	12-2 ethion (ISO)
REL	Long-term value: 0.4 mg/m ³ Skin
TIV	Long-term value: 0.05* mg/m ³
ILV	Skin; BEI-A;*as inhalable fraction and vapor
T	
	edients with biological limit values: 54-3 n-hexane
DEI	0.4 mg/L Medium: urine
	Time: end of shift at end of workweek
	Parameter: 2.5-Hexanedione without hydrolysis
67-6	14-1 acetone
BEI	50 mg/L
	Medium: urine
	<i>Time: end of shift Parameter: Acetone (nonspecific)</i>
52-6	8-6 trichlorfon (ISO)
	70 % of baseline
DEI	Medium: red blood cells
	Time: discretionary
	Parameter: Cholinesterase activity (nonspecific)
1307	71-79-9 S-tert-butylthiomethyl O,O-diethylphosphorodithioate
	70 % of baseline
	Medium: red blood cells
	Time: discretionary Parameter: Cholinesterase activity (nonspecific)
	P-24-5 sulfotep (ISO)
	70 % of baseline
	Medium: red blood cells
	Time: discretionary
	Parameter: Cholinesterase activity (nonspecific)
	4-2 dioxathion (ISO)
	70 % of baseline
	Medium: red blood cells Time: discretionary
	Parameter: Cholinesterase activity (nonspecific)
563	12-2 ethion (ISO)
	70 % of baseline
ושט	Medium: red blood cells
	Time: discretionary
	Parameter: Cholinesterase activity (nonspecific)
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- Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- \cdot General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.
- Breathing equipment:
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· Information on basic physical and o · General Information	chemical properties
· Appearance:	
Form:	Liquid
Color:	According to product specification
· Odor:	Characteristic
· Odour Threshold:	Not applicable.
· pH-value:	Not applicable.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	55 °C (131 °F)
· Flash point:	-26 °C (-15 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	240 °C (464 °F)
· Decomposition temperature:	Not applicable.
· Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
• Explosion limits:	
Lower:	1.2 Vol %
Upper:	13.0 Vol %
· Vapor pressure at 20 °C (68 °F):	233 hPa (175 mm Hg)
· Density	Not applicable.
· Relative density	Not applicable.
· Vapor density	Not applicable.
• Evaporation rate	Not applicable.

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		(Contd. of page 5)
· Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
· Partition coefficient (n-octano	l/water): Not applicable.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
· Solvent content:		
Organic solvents:	99.7 %	
VOC content:	50.0 %	
Solids content:	0.3 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
 Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

• Information on toxicological effects • Acute toxicity:	
· LD/LC50 values that are relevant for classification:	
732-11-6 phosmet (ISO)	
Oral LD50 230 mg/kg (rat)	
Dermal LD50 1150 mg/kg (rat)	
121-75-5 malathion (ISO)	
Oral LD50 885 mg/kg (rat)	
3689-24-5 sulfotep (ISO)	
Oral LD50 5 mg/kg (rat)	
Dermal LD50 20 mg/kg (rat)	
78-34-2 dioxathion (ISO)	
Oral LD50 23 mg/kg (rat)	
Dermal LD50 63 mg/kg (rat)	
563-12-2 ethion (ISO)	
Oral LD50 161 mg/kg (rat)	
Dermal LD50 915 mg/kg (rat)	
56-38-2 parathion (ISO)	
Oral LD50 2 mg/kg (rat)	
Dermal LD50 6.8 mg/kg (rat)	
 Primary irritant effect: on the skin: Irritant to skin and mucous membranes. on the eye: Irritating effect. 	
• Sensitization: No sensitizing effects known.	
· Additional toxicological information:	
The product shows the following dangers according to internally approved calculation methods for preparations: Harmful	
Irritant	
· Carcinogenic categories	
· IARC (International Agency for Research on Cancer)	
52-68-6 trichlorfon (ISO)	3
121-75-5 malathion (ISO)	3
56-38-2 parathion (ISO)	3
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· NTP (National Toxicology Program)

- None of the ingredients is listed.
- · OSHA-Ca (Occupational Safety & Health Administration)
- None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Very toxic for fish
- Additional ecological information:
- · General notes:
- Water hazard class 2 (Self-assessment): hazardous for water
- Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
- Also poisonous for fish and plankton in water bodies.
- Very toxic for aquatic organisms
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

14 Transport information	
· UN-Number · DOT, ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· DOT · ADR	Flammable liquids, n.o.s. (Hexanes, Acetone) 1993 Flammable liquids, n.o.s. (Hexanes, Acetone), ENVIRONMENTALL: HAZARDOUS
·IMDG	FLAMMABLE LIQUID, N.O.S. (HEXANES, ACETONE), MARINI POLLUTANT
·IATA	Flammable liquid, n.o.s. (Hexanes, Acetone)
· Transport hazard class(es)	
FI AMAGE E DUID	
· Class	3 Flammable liquids
· Label	3
· ADR, IMDG	
· Class	3 Flammable liquids
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Label	3
IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	11
· Environmental hazards:	Product contains environmentally hazardous substances: azinphos-eth (ISO), trichlorfon (ISO)
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	<i>F-E,<u>S-E</u> B</i>
· Stowage Category	_
• Transport in bulk according to Annex II of MARPO Code	
	Not applicable.
• Transport/Additional information:	
·ADR	
\cdot Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
·IMDG	
\cdot Limited quantities (LQ)	
\cdot Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUIDS, N.O.S. (HEXANES, ACETONE), 3, 1 ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

Section 355	5 (extremely hazardous substances):
2642-71-9	azinphos-ethyl (ISO)
122-14-5	fenitrothion (ISO)
732-11-6	phosmet (ISO)
21609-90-5	leptophos (ISO)
6923-22-4	monocrotophos (ISO)
470-90-6	chlorfenvinphos (ISO)
786-19-6	carbophenothion (ISO)
13171-21-6	phosphamidon
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate
107-49-3	TEPP (ISO)
3689-24-5	sulfotep (ISO)
141-66-2	(E)-3-(dimethylamino)-1-methyl-3-oxoprop-1-enyl dimethyl phosphate
78-34-2	dioxathion (ISO)
60-51-5	dimethoate (ISO)
944-22-9	fonofos (ISO)
Section 313	B (Specific toxic chemical listings):
110-54-3	n-hexane
52-68-6	trichlorfon (ISO)

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		(Contd. of pag
121-75-5 ma		
	lorpyrifos-methyl	
	nethoate (ISO)	
56-38-2 pa	rathion (ISO)	
TSCA (Toxic S	Substances Control Act):	
110-54-3 n-he		
67-64-1 acet		
60-51-5 dim	ethoate (ISO)	
	-diethyl O-pyrazin-2-yl phosphorothioate	
Proposition 65		
	own to cause cancer:	
None of the ing	gredients is listed.	
	own to cause reproductive toxicity for females:	
None of the ing	gredients is listed.	
	own to cause reproductive toxicity for males:	
None of the ing	gredients is listed.	
Chemicals kn	own to cause developmental toxicity:	
None of the in;	gredients is listed.	
Carcinogenic	categories	
	mental Protection Agency)	
110-54-3 n-he		
67-64-1 acet	one	
56-38-2 para	thion (ISO)	
TLV (Thresho	ld Limit Value established by ACGIH)	
67-64-1 ace		
52-68-6 tri	chlorfon (ISO)	
121-75-5 ma	lathion (ISO)	
6923-22-4 mo	nocrotophos (ISO)	
3689-24-5 sul		
)-3-(dimethylamino)-1-methyl-3-oxoprop-1-enyl dimethyl phosphate	
	exathion (ISO)	
944-22-9 for	lofos (ISO)	
r.	ethyl O-4-nitrophenyl phenylphosphonothioate	
2104-64-5 0-0		
2104-64-5 O- 563-12-2 eth	tion (ISO)	

None of the ingredients is listed.

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



· Signal word Danger

- Hazard-determining components of labeling: n-hexane
- acetone
- · Hazard statements
- Highly flammable liquid and vapor.
- Causes skin irritation.
- Causes serious eye irritation.
- Suspected of damaging fertility or the unborn child.
- May cause drowsiness or dizziness.
- May cause damage to organs through prolonged or repeated exposure.
- May be fatal if swallowed and enters airways.
- · Precautionary statements
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: product safety department
- · Contact:
- SPEX CertiPrep, LLC. 1-732-549-7144 · Date of preparation / last revision 02/29/2016 / -· Abbreviations and acronyms: DOT: US Department of Transportation IATA: International Air Transport Association

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids, Hazard Category 2 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Repr. 2: Reproductive toxicity, Hazard Category 2 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2 Asp. Tox. 1: Aspiration hazard, Hazard Category 1

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