

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Ketones/APPIX Mix  
 Product code : AL0-130817

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269

#### 1.4. Emergency telephone number

No additional information available

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 1B	H350	May cause cancer
Specific target organ toxicity (single exposure) Category 1	H370	Causes damage to organs

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour  
 H301+H311 - Toxic if swallowed or in contact with skin  
 H317 - May cause an allergic skin reaction  
 H350 - May cause cancer  
 H370 - Causes damage to organs

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P264 - Wash hands, forearms and face thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P272 - Contaminated work clothing must not be allowed out of the workplace  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P310 - If swallowed: Immediately call a poison center or doctor

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P302+P352 - If on skin: Wash with plenty of water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P307+P311 - If exposed: Call a poison center/doctor  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P312 - Call a poison center or doctor if you feel unwell  
P321 - Specific treatment (see supplemental first aid instruction on this label)  
P322 - Specific treatment (see supplemental first aid instruction on this label)  
P330 - Rinse mouth.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use media other than water to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	Conc.
methanol (Component)	(CAS-No.) 67-56-1	88.6
acrylonitrile, inhibited (Component)	(CAS-No.) 107-13-1	0.2
1,4-dichloro-2-butene, trans- (Component)	(CAS-No.) 110-57-6	0.2
4-Methyl-2-Pentanone (Component)	(CAS-No.) 108-10-1	0.2
iodomethane (Component)	(CAS-No.) 74-88-4	0.2

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.  
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.  
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.  
Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Ketones/APPIX Mix		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

### acrylonitrile, inhibited (107-13-1)

ACGIH	Local name	Acrylonitrile
ACGIH	ACGIH TWA (ppm)	2 ppm
ACGIH	Remark (ACGIH)	CNS impair; LRT irr
ACGIH	Regulatory reference	ACGIH 2018

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<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>		
ACGIH	ACGIH TWA (ppm)	0.005 ppm
<b>iodomethane (74-88-4)</b>		
ACGIH	Local name	Methyl iodide
ACGIH	ACGIH TWA (ppm)	2 ppm
ACGIH	Remark (ACGIH)	Eye dam; CNS impair
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	28 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	5 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
<b>4-Methyl-2-Pentanone (108-10-1)</b>		
ACGIH	Local name	Methyl isobutyl ketone
ACGIH	ACGIH TWA (ppm)	20 ppm (Methyl isobutyl ketone; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	75 ppm (Methyl isobutyl ketone; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	URT irr; dizziness; headache
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	410 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
<b>methanol (67-56-1)</b>		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

### 8.2. Appropriate engineering controls

No additional information available

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves.

#### Eye protection:

Chemical goggles or safety glasses

#### Respiratory protection:

Wear appropriate mask

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### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
	: Colorless
	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

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ATE US (oral)	112.867 mg/kg body weight
ATE US (dermal)	338.6 mg/kg body weight

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<b>acrylonitrile, inhibited (107-13-1)</b>	
LD50 oral rat	95 mg/kg body weight (Rat, Female, Experimental value, Oral)
LD50 dermal rat	> 200 mg/kg body weight (4 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	2.05 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	95 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	2.05 mg/l/4h
ATE US (dust, mist)	2.05 mg/l/4h
<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h
<b>iodomethane (74-88-4)</b>	
LD50 oral rat	80 - 132 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	4.07 mg/l (EPA OPPTS 870.1300: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	80 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	4.07 mg/l/4h
ATE US (dust, mist)	4.07 mg/l/4h
<b>4-Methyl-2-Pentanone (108-10-1)</b>	
LD50 oral rat	2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat	>= 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	8.2- 16.4,Rat; Experimental value
LC50 inhalation rat (ppm)	2000 - 4000 ppm/4h (Rat; Experimental value)
ATE US (oral)	2080 mg/kg body weight
ATE US (gases)	2000 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>methanol (67-56-1)</b>	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer.

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<b>acrylonitrile, inhibited (107-13-1)</b>	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

<b>4-Methyl-2-Pentanone (108-10-1)</b>	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Causes damage to organs.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.

### SECTION 12: Ecological information

#### 12.1. Toxicity

<b>acrylonitrile, inhibited (107-13-1)</b>	
LC50 fish 1	8.6 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinodon variegatus, Semi-static system, Salt water, Experimental value, GLP)
EC50 Daphnia 1	7.6 - 22 mg/l (48 h, Daphnia magna, No reliable data available)
ErC50 (algae)	14.1 ppm (Other, 72 h, Skeletonema costatum, Static system, Salt water, Experimental value, GLP)

<b>iodomethane (74-88-4)</b>	
LC50 fish 1	1.4 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, GLP)
ErC50 (algae)	2.55 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

<b>4-Methyl-2-Pentanone (108-10-1)</b>	
LC50 fish 1	600 mg/l (96 h, Salmo gairdneri, Fresh water, Literature study)
EC50 Daphnia 1	> 200 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
LC50 fish 2	> 179 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value, GLP)

<b>methanol (67-56-1)</b>	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)

#### 12.2. Persistence and degradability

<b>Ketones/APPIX Mix</b>	
Persistence and degradability	Not established.

<b>acrylonitrile, inhibited (107-13-1)</b>	
Persistence and degradability	Biodegradable in the soil. Inherently biodegradable. Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.72 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.39 g O <sub>2</sub> /g substance
ThOD	3.17 g O <sub>2</sub> /g substance

<b>iodomethane (74-88-4)</b>	
Persistence and degradability	Not readily biodegradable in water.

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<b>4-Methyl-2-Pentanone (108-10-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.06 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.16 g O <sub>2</sub> /g substance
ThOD	2.72 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.76

<b>methanol (67-56-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.8 (Literature study)

### 12.3. Bioaccumulative potential

<b>Ketones/APPIX Mix</b>	
Bioaccumulative potential	Not established.

<b>acrylonitrile, inhibited (107-13-1)</b>	
BCF fish 1	48 (672 h, Lepomis macrochirus, Fresh water, Literature study)
Log Pow	1.02 - 1.05 (Experimental value, EU Method A.8: Partition Coefficient, 21 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>	
Log Pow	2.11 - 2.6 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

<b>iodomethane (74-88-4)</b>	
Log Pow	1.57 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

<b>4-Methyl-2-Pentanone (108-10-1)</b>	
BCF fish 1	2 - 5 (BCF)
Log Pow	1.9 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

<b>methanol (67-56-1)</b>	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

<b>acrylonitrile, inhibited (107-13-1)</b>	
Surface tension	26.6 mN/m (25 °C)
Ecology - soil	No (test)data on mobility of the substance available.

<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>	
Surface tension	0.024 N/m (20 °C)
Log Koc	2.33 (log Koc, Experimental value, Other isomer)

<b>iodomethane (74-88-4)</b>	
Surface tension	0.026 N/m (43 °C)
Log Koc	1.15 - 1.79 (log Koc, OECD 106: Adsorption/Desorption Using a Batch Equilibrium Method, Experimental value, GLP)
Ecology - soil	Highly mobile in soil.

<b>4-Methyl-2-Pentanone (108-10-1)</b>	
Surface tension	0.024 N/m (20 °C)



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4-Methyl-2-Pentanone (108-10-1)	
Log Koc	Koc,101.85; Weight of evidence; Calculated value; log Koc; 2.008; Weight of evidence; Calculated value
Ecology - soil	Low potential for adsorption in soil.
methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

### 12.5. Other adverse effects

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acrylonitrile, inhibited (107-13-1)	
1,4-dichloro-2-butene, trans- (110-57-6)	
iodomethane (74-88-4)	
4-Methyl-2-Pentanone (108-10-1)	
methanol (67-56-1)	

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1992 Flammable liquids, toxic, n.o.s., 3 (6.1), II  
UN-No.(DOT) : UN1992  
Proper Shipping Name (DOT) : Flammable liquids, toxic, n.o.s.  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Subsidiary risk (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132  
Hazard labels (DOT) : 3 - Flammable liquid  
6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 243  
DOT Symbols : G - Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
Emergency Response Guide (ERG) Number	: 131
Other information	: No supplementary information available.

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Transport document description (IMDG)	: UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S., 3 (6.1), II
UN-No. (IMDG)	: 1992
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, TOXIC, N.O.S.
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger
Subsidiary risks (IMDG)	: 6.1 - Toxic substances

### Air transport

Transport document description (IATA)	: UN 1992 Flammable liquid, toxic, n.o.s., 3 (6.1), II
UN-No. (IATA)	: 1992
Proper Shipping Name (IATA)	: Flammable liquid, toxic, n.o.s.
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger
Subsidiary risks (IATA)	: 6.1 - Toxic substances

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

# Ketones/APPIX Mix

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>acrylonitrile, inhibited (107-13-1)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
EPA TSCA Regulatory Flag	TP - TP - indicates a substance that is the subject of a proposed TSCA section 4 test rule.
CERCLA RQ	100 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb
<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	500 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
<b>iodomethane (74-88-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb
<b>4-Methyl-2-Pentanone (108-10-1)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb
<b>methanol (67-56-1)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

### 15.2. International regulations

#### CANADA

<b>acrylonitrile, inhibited (107-13-1)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>1,4-dichloro-2-butene, trans- (110-57-6)</b>
Listed on the Canadian NDSL (Non-Domestic Substances List)
<b>iodomethane (74-88-4)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>4-Methyl-2-Pentanone (108-10-1)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>methanol (67-56-1)</b>
Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

<b>acrylonitrile, inhibited (107-13-1)</b>
Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) Listed on EPA Hazardous Air Pollutant (HAPS)

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<b>iodomethane (74-88-4)</b>
Listed on EPA Hazardous Air Pollutant (HAPS)
<b>4-Methyl-2-Pentanone (108-10-1)</b>
Listed on IARC (International Agency for Research on Cancer) Listed on EPA Hazardous Air Pollutant (HAPS)
<b>methanol (67-56-1)</b>
Listed on EPA Hazardous Air Pollutant (HAPS)

### 15.3. US State regulations

acrylonitrile, inhibited (107-13-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.7 µg/day	
iodomethane (74-88-4)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		
4-Methyl-2-Pentanone (108-10-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	No	No		
methanol (67-56-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		47000 µg/day (inhalation); 23,000 µg/day (oral)

### SECTION 16: Other information

Revision date : 07/08/2019  
Other information : None.

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H317	May cause an allergic skin reaction
H350	May cause cancer
H370	Causes damage to organs

Phenova US SDS REV

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