



## Safety Data Sheet

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### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier	<b>Med Acrylic Enamel Reducer</b>
Other means of identification	
Product code	<b>ADV 108-4</b>
Recommended use	Solvent

#### Manufacturer/Importer/Supplier/Distributor information

Company name	INTERNATIONAL AUTOBODY MARKETING GROUP
Address	1505 NORTH HAYDEN RD, SUITE 111 SCOTTSDALE, AZ 85257 UNITED STATES

Website	<a href="http://www.advantagerefinish.com">www.advantagerefinish.com</a>
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Telephone	1-87-REFINISH 480.451.4451
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Emergency phone number	800-424-9300 ChemTrec EMERGENCY 24 Hrs.
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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids	Category 2
Acute toxicity (Inhalation)	Category 4
Skin irritation	Category 2
Eye irritation	Category 2A
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity - single exposure	Category 1 (Eyes, Central nervous system)
Specific target organ toxicity - single exposure	Category 3 (Central nervous system)
Specific target organ toxicity -	Category 2 (Liver, Kidney, Central nervous system, Au-

icity - repeated exposure

ditory system)

Specific target organ toxicity - repeated exposure (Inhalation)

Category 2 (Auditory system, Eyes)

Aspiration hazard

Category 1

### GHS Label element

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H340 May cause genetic defects.  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H370 Causes damage to organs (Eyes, Central nervous system).  
H373 May cause damage to organs (Liver, Kidney, Central nervous system, Auditory system) through prolonged or repeated exposure.  
H373 May cause damage to organs (Auditory system, Eyes) through prolonged or repeated exposure if inhaled.

Precautionary statements

#### Prevention:

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.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/

spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ eye protection/ face protection.  
P281 Use personal protective equipment as required.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

**Carcinogenicity:**

**IARC**

Group 2B: Possibly carcinogenic to humans

64742-49-0 Naphtha (pet), hydrotreated  
It

64742-89-8 Solvent naphtha (pet), It

aliph.

100-41-4

Ethylbenzene

**ACGIH** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Emergency Overview**

Appearance	liquid
Colour	clear, colourless
Odour	No data available
Hazard Summary	No information available.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

CAS-No.	Chemical Name	Concentration (%)
108-88-3	Toluene	30 - 50
64742-49-0	Naphtha (pet), hydrotreated lt	0 - 30
64742-89-8	Solvent naphtha (pet), lt aliph.	0 - 30
68410-97-9	Distillates, pet, lt dist hydrotreat process, low-boil	0 - 30
67-64-1	Acetone	10 - 20
111-76-2	2-Butoxy ethanol	5 - 10
1330-20-7	Mixed xylenes	5 - 10
67-56-1	Methanol	1 - 5
100-41-4	Ethylbenzene	1 - 5
142-82-5	Heptane	0.1 - 1

**Special Notes:** Functionally equivalent petroleum streams may be found in this preparation at varying concentrations. ,Mixed Xylenes contains the isomers o-, m-, p- Xylene, and Ethylbenzene. Trace amounts of Toluene

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and Benzene may also be present as impurities.

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**SECTION 4. FIRST AID MEASURES**

General advice	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.
In case of skin contact	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

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**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	High volume water jet
Specific hazards during firefighting	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion	Carbon oxides

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products	
Specific extinguishing methods	Use a water spray to cool fully closed containers.
Further information	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.
Special protective equipment for firefighters	Wear self-contained breathing apparatus for fire-fighting if necessary.

**NFPA Flammable and Combustible Liquids Classification:**  
Flammable Liquid Class IB

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8.
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Smoking, eating and drinking should be prohibited in the application area.  
 Take precautionary measures against static discharges.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Container may be opened only under exhaust ventilation hood.  
 Open drum carefully as content may be under pressure.  
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage

No smoking.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
108-88-3	Toluene	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m <sup>3</sup>	NIOSH REL
		ST	150 ppm 560 mg/m <sup>3</sup>	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m <sup>3</sup>	OSHA P0
		STEL	150 ppm 560 mg/m <sup>3</sup>	OSHA P0
64742-49-0	Naphtha (pet), hydrotreated lt	TWA	500 ppm 2,000 mg/m <sup>3</sup>	OSHA Z-1
		TWA	400 ppm 1,600 mg/m <sup>3</sup>	OSHA P0
64742-89-8	Solvent naphtha (pet), lt aliph.	TWA	500 ppm 2,000 mg/m <sup>3</sup>	OSHA Z-1

		TWA	400 ppm 1,600 mg/m3	OSHA P0
67-64-1	Acetone	TWA	500 ppm	ACGIH
		STEL	750 ppm	ACGIH
		TWA	250 ppm 590 mg/m3	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m3	OSHA Z-1
		TWA	750 ppm 1,800 mg/m3	OSHA P0
		STEL	1,000 ppm 2,400 mg/m3	OSHA P0
111-76-2	2-Butoxy ethanol	TWA	20 ppm	ACGIH
		TWA	5 ppm 24 mg/m3	NIOSH REL
		TWA	50 ppm 240 mg/m3	OSHA Z-1
		TWA	25 ppm 120 mg/m3	OSHA P0
1330-20-7	Mixed xylenes	TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	OSHA Z-1
67-56-1	Methanol	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
		STEL	250 ppm 325 mg/m3	OSHA P0
		TWA	200 ppm 260 mg/m3	OSHA P0
100-41-4	Ethylbenzene	TWA	20 ppm	ACGIH
		STEL	125 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	NIOSH REL
		ST	125 ppm 545 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA Z-1
		TWA	100 ppm 435 mg/m3	OSHA P0
		STEL	125 ppm 545 mg/m3	OSHA P0
142-82-5	Heptane	TWA	85 ppm 350 mg/m3	NIOSH REL



		C	440 ppm 1,800 mg/m <sup>3</sup>	NIOSH REL
		TWA	500 ppm 2,000 mg/m <sup>3</sup>	OSHA Z-1
		TWA	400 ppm 1,600 mg/m <sup>3</sup>	OSHA P0
		STEL	500 ppm 2,000 mg/m <sup>3</sup>	OSHA P0

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissi- ble con- centration	Basis
Toluene	108-88-3	Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGI H BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGI H BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGI H BEI
Acetone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	50 mg/l	ACGI H BEI
2-Butoxy ethanol	111-76-2	Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible)	200 mg/g Creatinine	ACGI H BEI

				after exposure ceases)		
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGI H BEI
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift at end of work-week	0.7 g/g creatinine	ACGI H BEI

Gastro intestinal illness caused by benzene, toluene, xylene and all products in which they are contained.Health effects caused by professional use of liquid organic solvents (indicated in the table).Occupational rhinitis and asthma.Haemopathic effects caused by benzene and all products in which it is contained.

**Personal protective equipment**

Respiratory protection	<p>No personal respiratory protective equipment normally required.</p> <p>In the case of vapour formation use a respirator with an approved filter.</p>
<p>Hand protection</p> <p>Remarks</p>	<p>The suitability for a specific workplace should be discussed with the producers of the protective gloves.</p>
Eye protection	<p>Eye wash bottle with pure water</p> <p>Tightly fitting safety goggles</p> <p>Wear face-shield and protective suit for abnormal processing problems.</p>
Skin and body protection	<p>impervious clothing</p> <p>Choose body protection according to the amount and concentration of the dangerous substance at the work place.</p>
Hygiene measures	<p>When using do not eat or drink.</p> <p>When using do not smoke.</p> <p>Wash hands before breaks and at the end of workday.</p>

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	liquid
Colour	clear, colourless
Odour	No data available
Odour Threshold	No data available
pH	No data available
Freezing Point	No data available
Boiling Point (Boiling point/boiling range)	56 - 173.5 °C (133 - 344.3 °F)
Flash point	>= -20 °C (-4 °F)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Burning rate	No data available
Upper explosion limit	7 - 36.5 %(V)
Lower explosion limit	0.8 - 6 %(V)
Vapour pressure	231 mmHg @ 25 °C (77 °F) Calculated Vapor Pressure
Relative vapour density	No data available
Relative density	0.809
Density	0.809 g/cm3
Bulk density	No data available
Water solubility	No data available
Solubility in other sol-vents	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Thermal decomposition	No data available

<b>Regulatory VOC (lbs/gal)</b>	<b>6.83</b>
<b>Regulatory VOC (g/l)</b>	<b>820.00</b>
<b>Actual VOC (lbs/gal)</b>	<b>5.88</b>
<b>Actual VOC (g/l)</b>	<b>706.00</b>

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Product will not undergo hazardous polymerization. No hazards to be specially mentioned.
Conditions to avoid	Keep away from heat, flame, sparks and other ignition sources. Do not allow evaporation to dryness. Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents Acids Amines Ammonia halogens Peroxides Reducing agents aluminum Bases chlorates Chlorine salts of strong bases Lead sodium Zinc
Hazardous decomposition products	carbon dioxide and carbon monoxide

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Product:**

Acute oral toxicity	Acute toxicity estimate : 2,327 mg/kg Method: Calculation method
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Acute inhalation toxicity      Acute toxicity estimate : 13608 ppm  
Exposure time: 4 h  
Test atmosphere: gas  
Method: Calculation method

Acute dermal toxicity      Acute toxicity estimate : 4,586 mg/kg  
Method: Calculation method

**Components:**

**108-88-3:**

Acute oral toxicity      LD50 (rat, male): > 5,580 mg/kg

Acute inhalation toxicity      LC50 (rat, male and female): 28.1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity      LD50 (rabbit): > 5,000 mg/kg

**64742-49-0:**

Acute oral toxicity      LD50 (rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity      Remarks: No data available

Acute dermal toxicity      LD50 (rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

**64742-89-8:**

Acute oral toxicity      LD50 (rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity      Remarks: No data available

Acute dermal toxicity      LD50 (rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

**68410-97-9:**

Acute oral toxicity      LD50 (rat): > 5,000 mg/kg

Acute inhalation toxicity      Remarks: No data available

Acute dermal toxicity      LD50 (rabbit): > 2,000 mg/kg

**67-64-1:**

Acute oral toxicity	LD50 (rat): 5,800 mg/kg
Acute inhalation toxicity	LC50 (rat): 76.0 mg/l Exposure time: 4 h
Acute dermal toxicity	LD50 : > 7,426 mg/kg
<b>111-76-2:</b>	
Acute oral toxicity	LD50 (rat): 745 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	LC50 (rat): 550 ppm Exposure time: 4 h Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	LD50 (rat): 1,250 mg/kg Assessment: The component/mixture is moderately toxic after single contact with skin.
<b>1330-20-7:</b>	
Acute oral toxicity	LD50 (rat, male): 3,523 mg/kg Method: EU Method B.1 (Acute Toxicity, Oral) GLP: no
Acute inhalation toxicity	LC50 (rat, male): 6700 ppm Exposure time: 4 h Method: Directive 67/548/EEC, Annex V, B.2. Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	LD50 (rabbit): 1,100 mg/kg Assessment: The component/mixture is moderately toxic after single contact with skin.
<b>67-56-1:</b>	
Acute oral toxicity	LD50 (rat): 100 mg/kg Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity	LC50 (rat): 5 mg/l Assessment: The component/mixture is toxic after short term inhalation.
Acute dermal toxicity	LD50 (rabbit): 300 mg/kg Assessment: The component/mixture is toxic after single contact with skin.

**100-41-4:**

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Acute inhalation toxicity	LC50 (Mouse, Male): 10 mg/l Exposure time: 4 h Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	LD50 (rabbit): 15,433 mg/kg
<b>142-82-5:</b> Acute oral toxicity	LD50 (rat, male and female): 5,000 mg/kg Method: OECD Test Guideline 401 Symptoms: Salivation GLP: yes Remarks: Information given is based on data obtained from similar substances.
Acute inhalation toxicity	LC50 (rat, male and female): 73.5 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	LD50 (rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Remarks: Information given is based on data obtained from similar substances.

## **Skin corrosion/irritation**

### **Product:**

Remarks: Irritating to skin.

### **Components:**

#### **108-88-3:**

Species: rabbit  
Exposure time: 4 h  
Result: Irritating to skin.

#### **64742-49-0:**

Species: rabbit  
Result: Irritating to skin.

#### **64742-89-8:**

Species: rabbit  
Exposure time: 4 h  
Result: Irritating to skin.

#### **68410-97-9:**

Species: rabbit  
Result: Irritating to skin.

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**67-64-1:**

Species: rabbit  
Exposure time: 24 h  
Method: In vivo  
Result: Mild skin irritation

**111-76-2:**

Species: rabbit  
Result: Irritating to skin.

**1330-20-7:**

Species: rabbit Exposure  
time: 24 h Result:  
Irritating to skin.

**67-56-1:**

Species: rabbit  
Result: No skin irritation

**100-41-4:**

Species: rabbit  
Result: Mild skin irritation

**142-82-5:**

Species: rabbit  
Exposure time: 24 h  
Method: OECD Test Guideline 404  
Result: Irritating to skin.  
GLP: yes  
Remarks: Based on a similar product formulation.

**Serious eye damage/eye irritation**

**Product:**

Remarks: Irritating to eyes.

**Components:**

**108-88-3:**

Species: rabbit  
Result: Irritating to eyes.  
Method: OECD Test Guideline 405

**64742-49-0:**

Species: rabbit  
Result: Irritating to eyes.

**64742-89-8:**

Species: rabbit  
Result: Irritating to eyes.



**68410-97-9:**

Species: rabbit

Result: Irritating to eyes.

**67-64-1:**

Species: rabbit

Result: Irritating to eyes.

Exposure time: 24 h

**111-76-2:**

Species: rabbit

Result: Irritating to eyes.

**1330-20-7:**

Species: rabbit

Result: Irritating to eyes.

**67-56-1:**

Species: rabbit

Result: No eye irritation

**100-41-4:**

Species: rabbit

Result: Mild eye irritation

**142-82-5:**

Species: rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

GLP: yes

Remarks: Information given is based on data obtained from similar substances.

**Respiratory or skin sensitisation****Components:****108-88-3:**

Test Type: Maximisation Test (GPMT)

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

GLP: yes

**64742-49-0:**

Test Type: Buehler Test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

**64742-89-8:**

Test Type: Buehler Test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

**67-64-1:**

Test Type: Maximization test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

**111-76-2:**

Test Type: Maximization test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

**1330-20-7:**

Remarks: No data available

**67-56-1:**

Test Type: Maximisation Test (GPMT)

Species: guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

**100-41-4:**

Remarks: No data available

**142-82-5:**

Test Type: Maximization test

Species: guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

Remarks: Based on a similar product formulation.

**Germ cell mutagenicity**

**Components:**

**108-88-3:**

Genotoxicity in vitro

Test Type: Mammalian cell gene mutation assay

Test species: Mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo

Test Type: Dominant lethal assay

Test species: mouse (male)

Application Route: inhalation (vapour)

Exposure time: 6 h/d, 5 d/wk for 8 wks

Dose: 0, 100, 400 ppm

Method: OECD Test Guideline 478

Result: negative

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Germ cell mutagenicity-  
Assessment

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

**64742-49-0:**

Germ cell mutagenicity-  
Assessment

Mutagenicity classification not possible from current data

**64742-89-8:**

Germ cell mutagenicity-  
Assessment

Mutagenicity classification not possible from current data

**68410-97-9:**

Genotoxicity in vitro

Test Type: Mammalian cell gene mutation assay  
Test species: mouse lymphoma cells  
Result: positive

Genotoxicity in vivo

Test Type: In vivo micronucleus test  
Test species: mouse  
Method: OECD Test Guideline 474  
Result: positive

Germ cell mutagenicity-  
Assessment

Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

**67-64-1:**

Genotoxicity in vitro

Test Type: Mammalian cell gene mutation assay  
Test species: Mouse lymphoma cells  
Metabolic activation: Without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Test species: Chinese hamster ovary (CHO)  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Genotoxicity in vivo

Test Type: In vivo micronucleus test  
Test species: mouse  
Application Route: Oral  
Exposure time: 13 wk  
Dose: 5,000, 10,000, 20,000 ppm  
Result: negative

Germ cell mutagenicity-Assessment	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
<b>111-76-2:</b> Genotoxicity in vitro	Test Type: Mammalian cell gene mutation assay Test species: Chinese hamster ovary (CHO) Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	Test Type: In vivo micronucleus test Test species: mouse (male) Application Route: Intraperitoneal Result: negative
Germ cell mutagenicity-Assessment	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
<b>1330-20-7:</b> Genotoxicity in vitro	Test Type: Chromosome aberration test in vitro Test species: Chinese hamster ovary (CHO) Metabolic activation: with and without metabolic activation Method: Mutagenicity (in vitro mammalian cytogenetic test) Result: negative
	Test Type: Sister chromatid exchange assay in mammalian cells Test species: Chinese hamster ovary (CHO) Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	Test Type: Dominant lethal assay Test species: mouse Application Route: Subcutaneous Exposure time: 8 wk Dose: 1.0 mL/kg Method: OECD Test Guideline 478 Result: negative GLP: no
Germ cell mutagenicity-Assessment	Animal testing did not show any mutagenic effects.
<b>67-56-1:</b> Genotoxicity in vitro	Test Type: DNA damage and/or repair Metabolic activation: with and without metabolic activation

	<p>vation</p> <p>Result: Ambiguous</p>
Genotoxicity in vivo	<p>Test Type: In vivo micronucleus test</p> <p>Test species: mouse (male and female)</p> <p>Cell type: Bone marrow</p> <p>Application Route: Intraperitoneal</p> <p>Exposure time: Single</p> <p>Dose: 0, 1920, 3200, 4480 mg/kg</p> <p>Result: negative</p>
Germ cell mutagenicity-Assessment	<p>Tests on bacterial or mammalian cell cultures did not show mutagenic effects.</p>
<b>100-41-4:</b> Genotoxicity in vitro	<p>Test Type: Chromosome aberration test in vitro</p> <p>Test species: Chinese hamster ovary (CHO)</p> <p>Metabolic activation: with and without metabolic activation</p> <p>Method: OECD Test Guideline 473</p> <p>Result: negative</p> <p>GLP: no</p> <p>Test Type: Mammalian cell gene mutation assay</p> <p>Test species: mouse lymphoma cells</p> <p>Metabolic activation: with and without metabolic activation</p> <p>Method: OECD Test Guideline 476</p> <p>Result: negative</p> <p>GLP: yes</p>
Genotoxicity in vivo	<p>Test Type: In vivo micronucleus test</p> <p>Test species: mouse (male)</p> <p>Application Route: Oral</p> <p>Method: OECD Test Guideline 474</p> <p>Result: negative</p> <p>GLP: yes</p> <p>Test Type: DNA damage and/or repair</p> <p>Test species: mouse (male and female)</p> <p>Application Route: Inhalation</p> <p>Method: OECD Test Guideline 486</p> <p>Result: negative</p> <p>GLP: yes</p>
Germ cell mutagenicity-Assessment	<p>In vivo tests did not show mutagenic effects</p>
<b>142-82-5:</b> Genotoxicity in vitro	<p>Test Type: Chromosome aberration test in vitro</p>

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	Test species: Rat liver Metabolic activation: Without metabolic activation Method: OECD Test Guideline 473 Result: negative
	Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Germ cell mutagenicity-Assessment	Did not show mutagenic effects in animal experiments.

**Carcinogenicity**

**Components:**

**108-88-3:**

Species: rat, (male and female)  
Application Route: inhalation (vapour)  
Exposure time: 103 wks  
Dose: 0, 600, 1200 ppm  
Frequency of Treatment: 6.5 h/d, 5 d/wk  
NOAEL: No observed adverse effect level: 1,200 ppm

Method: OECD Test Guideline 453  
Result: did not display carcinogenic properties  
Symptoms: Erosion of nasal epithelium  
GLP: yes

Carcinogenicity - Assessment	Not classifiable as a human carcinogen.
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**64742-49-0:**

Carcinogenicity - Assessment	Not classifiable as a human carcinogen.
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**64742-89-8:**

Carcinogenicity - Assessment	Not classifiable as a human carcinogen.
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**68410-97-9:**

Species: mouse  
NOAEL: 50 mg/kg bw/day

Method: OECD Test Guideline 451  
Result: evidence of carcinogenic activity

Carcinogenicity - Assessment	: Possible human carcinogen
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**67-64-1:**

Species: mouse, (female)  
Application Route: Dermal  
Exposure time: 365 d (90%) or 424 d (100%)  
Dose: 0.1ml 90(71mg) or 100% (79mg)  
Frequency of Treatment: 3 times per wk  
NOAEL: 79

Result: did not display carcinogenic properties

Carcinogenicity - Assessment

Carcinogenicity classification not possible from current data.

**111-76-2:**

Species: mouse  
Application Route: Inhalation  
Exposure time: 2 yr  
Activity duration: 6 h  
Frequency of Treatment: 5 days/week  
NOAEL: 125 ppm

Result: Limited evidence of carcinogenic effects with no relevance to humans

Carcinogenicity - Assessment

: Not classifiable as a human carcinogen.

**1330-20-7:**

Species: mouse, (male and female)  
Application Route: Oral  
Exposure time: 103 wk  
Dose: 0, 500 or 1000 mg/kg  
Frequency of Treatment: 5 days/week  
Method: Directive 67/548/EEC, Annex V, B.32.  
Result: did not display carcinogenic properties  
GLP: No data available

Carcinogenicity - Assessment

Animal testing did not show any carcinogenic effects.

**67-56-1:**

Carcinogenicity - Assessment

Suspected human carcinogens

**100-41-4:**

Species: mouse, (male and female)  
Application Route: Inhalation  
Exposure time: 103 wk  
Activity duration: 6 h  
Dose: 0, 75, 250, 750 ppm

Frequency of Treatment: 5 days/week  
NOAEL: 250 ppm

Method: OECD Test Guideline 453  
Result: evidence of carcinogenic activity  
Symptoms: increased incidences of alveolar/bronchiolar neoplasms, increase incidence of hepatocellular carcinomas  
GLP: yes

Carcinogenicity - Assessment                      Suspected human carcinogens

**142-82-5:**

Remarks: This information is not available.

Carcinogenicity - Assessment                      Carcinogenicity classification not possible from current data.

**Reproductive toxicity**

**Components:**

**108-88-3:**

Effects on fertility

Test Type: Two-generation study  
Species: rat, male and female  
Application Route: Inhalation  
Dose: 0, 100, 500, 2000 ppm  
Frequency of Treatment: 7 days/week  
General Toxicity - Parent: NOAEC: 500 ppm  
General Toxicity F1: NOAEC: 500 ppm  
Fertility: NOAEC: 2,000 ppm  
Symptoms: Reduced maternal body weight gain. Reduced offspring weight gain.  
Method: OECD Test Guideline 416  
Result: Animal testing did not show any effects on fertility.  
GLP: yes

Test Type: Fertility  
Species: rat, male and female  
Application Route: inhalation (vapour)  
Dose: 0, 600, 1200 ppm  
Frequency of Treatment: 7 days/week  
General Toxicity - Parent: NOAEC: 600 ppm  
Symptoms: Decreased sperm count  
Result: Animal testing did not show any effects on fertility.

Effects on foetal development

Species: rat  
Application Route: inhalation (vapour)  
Dose: 0, 250, 750, 1500, 3000 ppm



	<p>Duration of Single Treatment: 10 d  Frequency of Treatment: 6 hr/day  General Toxicity Maternal: NOAEC: 750 ppm  Developmental Toxicity: NOAEC: 750 ppm  Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations.  GLP: yes</p>
Reproductive toxicity - Assessment	Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
<b>64742-49-0:</b> Reproductive toxicity - Assessment	Fertility classification not possible from current data. Embryotoxicity classification not possible from current data.
<b>64742-89-8:</b> Reproductive toxicity - Assessment	Fertility classification not possible from current data. Embryotoxicity classification not possible from current data.
<b>68410-97-9:</b> Reproductive toxicity - Assessment	Fertility classification not possible from current data. Embryotoxicity classification not possible from current data.
<b>67-64-1:</b> Effects on fertility	<p>Species: rat, male  Application Route: oral  Dose: 0, 5000, 10000 mg/L  Frequency of Treatment: 7 days/week  General Toxicity - Parent: LOAEL: 10,000  Fertility: 10,000</p>
Effects on foetal development	<p>Species: rat  Application Route: Inhalation  Dose: 0, 440, 2200, 11000 ppm  Frequency of Treatment: 7 days/week  General Toxicity Maternal: NOAEC: 2,200 ppm  Teratogenicity: NOAEC: 11,000 ppm  Embryo-foetal toxicity.: NOAEC: 2,200 ppm  Method: OECD Test Guideline 414  Result: No teratogenic potential.  GLP: No data available</p>
Reproductive toxicity - Assessment	No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.
<b>111-76-2:</b>	

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Effects on fertility

Test Type: Two-generation study  
Species: mouse  
Application Route: oral  
Fertility: NOAEL: 720 mg/kg body weight  
Symptoms: Reduced fertility  
Result: Reduced fertility at maternally toxic doses

Effects on foetal development

Test Type: Embryo-foetal development  
Species: rat  
Application Route: Inhalation  
Duration of Single Treatment: 10 d  
Frequency of Treatment: 6 hr/day  
Developmental Toxicity: Lowest observed adverse effect level: 100 ppm  
Result: Developmental toxicity occurred at maternal toxicity dose levels

Reproductive toxicity - Assessment

No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

**1330-20-7:**

Effects on fertility

Test Type: Two-generation study  
Species: rat, male and female  
Application Route: Inhalation  
Dose: 0, 25, 100 and 500 ppm  
Duration of Single Treatment: 6 h  
Frequency of Treatment: 7 days/week  
General Toxicity - Parent: NOAEC: > 500 ppm  
General Toxicity F1: NOAEC: > 500 ppm  
Early Embryonic Development: NOAEC: > 500 ppm  
Result: No reproductive effects.

Effects on foetal development

Species: rat  
Application Route: Inhalation  
Dose: 0, 100, 500, 1000 or 2000 ppm  
Duration of Single Treatment: 14 d  
Frequency of Treatment: 6 hr/day  
General Toxicity Maternal: NOAEC: 500 ppm  
Teratogenicity: NOAEC: > 2,000  
Developmental Toxicity: NOAEC: 100 ppm  
Result: No teratogenic effects., Developmental toxicity occurred at maternal toxicity dose levels

Reproductive toxicity - Assessment

Animal testing did not show any effects on fertility. Damage to fetus not classifiable

**67-56-1:**

Effects on fertility

Test Type: Two-generation study  
Species: rat, male and female  
Application Route: Inhalation

	<p>Dose: 0, 0.013, 0.13, 1.3 mg/L  Duration of Single Treatment: 20 h  General Toxicity - Parent: NOAEC: 1.3 mg/l  General Toxicity F1: NOAEC: 0.13 mg/l  Fertility: NOAEC: 1.3 mg/l  Symptoms: Effects on postnatal development.  Result: Animal testing did not show any effects on fertility.</p>
Effects on foetal development	<p>Species: rat  Application Route: inhalation (vapour)  Dose: 0, 6.65, 13.3, 26.6 mg/L  Duration of Single Treatment: 20 d  Frequency of Treatment: 7 hr/day  General Toxicity Maternal: NOAEC: 13.3 mg/L  Teratogenicity: NOAEC: 6.65 mg/L  Result: Teratogenic effects.</p>
Reproductive toxicity - Assessment	<p>Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.</p>
<p><b>100-41-4:</b>  Effects on fertility</p>	<p>Test Type: One generation study  Species: rat, male and female  Application Route: Inhalation  Dose: 0, 100, 500 and 1000 ppm  Duration of Single Treatment: 6 h  General Toxicity - Parent: NOAEC: 1,000 ppm  General Toxicity F1: NOAEC: 100 ppm  Symptoms: Reduced foetal weight. Reduced offspring weight gain.  Method: OECD Test Guideline 415  Result: No reproductive effects.  GLP: yes</p>
Effects on foetal development	<p>Species: rat  Application Route: Inhalation  Dose: 0, 100, 500, 1000, 2000 ppm  Duration of Single Treatment: 15 d  General Toxicity Maternal: NOAEC: 500 ppm  Teratogenicity: NOAEC: 2,000 ppm  Developmental Toxicity: NOAEC: 500 ppm  Symptoms: Reduced body weight  Method: OECD Test Guideline 414  Result: Developmental toxicity occurred at maternal toxicity dose levels  GLP: No data available</p>
Reproductive toxicity - Assessment	<p>Fertility classification not possible from current data.  Embryotoxicity classification not possible from current</p>

data.

**142-82-5:**

Effects on fertility

Test Type: Two-generation study  
Species: rat, male and female  
Application Route: vapour  
Dose: 0, 900, 3000, 9000 ppm  
Frequency of Treatment: 5 days/week  
General Toxicity - Parent: NOAEC: 3,000 ppm  
General Toxicity F1: NOAEC: 3,000 ppm  
Fertility: NOAEC: 9,000 ppm  
Symptoms: Reduced maternal body weight gain. Reduced offspring weight gain.  
Method: OECD Test Guideline 416  
Result: No reproductive effects.  
GLP: yes  
Remarks: Information given is based on data obtained from similar substances.

Effects on foetal development

Species: mouse  
Application Route: inhalation (vapour)  
Dose: 0, 900, 3000, 9000 ppm  
Duration of Single Treatment: 10 d  
Frequency of Treatment: 6 hr/day  
General Toxicity Maternal: NOAEC: 900 ppm  
Developmental Toxicity: NOAEC: 3,000 ppm  
Symptoms: Skeletal malformations.  
Method: OECD Test Guideline 414  
GLP: yes  
Remarks: Information given is based on data obtained from similar substances.

Reproductive toxicity - Assessment

Animal testing did not show any effects on fertility. Embryotoxicity classification not possible from current data.

**STOT - single exposure**

**Product:**No data available

**Components:**

108-88-3:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic	

	effects.
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64742-49-0:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsi- ness or dizziness., The substance or mixture is classified as specific target organ toxicant, sin- gle exposure, cate- gory 3 with narcotic effects.	

64742-89-8:No data available

68410-97-9:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsi- ness or dizziness., The substance or mixture is classified as specific target organ toxicant, sin- gle exposure, cate- gory 3 with narcotic effects.	

67-64-1:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsi- ness or dizziness., The substance or mixture is classified as specific target organ toxicant, sin- gle exposure, cate- gory 3 with narcotic effects.	

111-76-2:No data available

1330-20-7:

Ex osure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Respiratory system	Ma cause res ira-	

		tory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
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67-56-1:

<b>Exposure routes:</b>	<b>Target Organs:</b>	<b>Assessment:</b>	<b>Remarks:</b>
	Eyes, Central nervous system	Causes damage to organs., The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.	

100-41-4:No data available

142-82-5:

<b>Exposure routes:</b>	<b>Target Organs:</b>	<b>Assessment:</b>	<b>Remarks:</b>
Inhalation	Central nervous system	May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.	

### **STOT - repeated exposure**

**Product:**No data available

**Components:**

**108-88-3:**

<b>Exposure routes:</b>	<b>Target Organs:</b>	<b>Assessment:</b>	<b>Remarks:</b>
Inhalation	Auditory system, Eyes	May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target	

		organ toxicant, repeated exposure, category 2.
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**64742-49-0:**No data available

**64742-89-8:**No data available

**68410-97-9:**No data available

**67-64-1:**No data available

**111-76-2:**No data available

**1330-20-7:**

Exposure routes:	Target Organs:	Assessment:	Remarks:
	Liver, Kidney, Central nervous system	May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.	

**67-56-1:**No data available

**100-41-4:**

Exposure routes:	Target Organs:	Assessment:	Remarks:
	Auditory system	May cause damage to organs through prolonged or repeated exposure., The substance or	

		mixture is classified as specific target organ toxicant, repeated exposure, category 2.
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**142-82-5:**No data available

### **Repeated dose toxicity**

#### **Components:**

##### **108-88-3:**

Species: rat, male and female  
 NOAEL: 300  
 Application Route: inhalation (vapour)  
 Exposure time: 6, 12, or 18 mths  
 Number of exposures: 6 h/d, 5 d/wk  
 Dose: 0, 30, 100, 300 ppm  
 Method: OECD Test Guideline 453

Repeated dose toxicity - : Causes skin irritation.  
 Assessment

##### **64742-89-8:**

Species: rat, male and female  
 NOAEL: 1402  
 Application Route: inhalation (vapour)  
 Test atmosphere: vapour  
 Exposure time: 13 weeks  
 Number of exposures: 6 hours/day, 5 days/week  
 Dose: 322, 1402, 9869 mg/m3  
 GLP: yes  
 Target Organs: Kidney  
 Symptoms: Nasal and ocular discharge

##### **67-64-1:**

Species: mouse, male  
 NOAEL: 20000  
 Application Route: Oral  
 Exposure time: 13 wk  
 Number of exposures: daily  
 Dose: 1250, 2500, 5000, 10000, 20000  
 Method: OECD Test Guideline 408  
 GLP: No data available

Species: mouse, female  
 NOAEL: 20000  
 LOAEL: 50000



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Application Route: Oral  
Exposure time: 13 wk  
Number of exposures: daily  
Dose: 2500, 5000, 10000, 20000, 5000  
Method: OECD Test Guideline 408  
GLP: No data available

Repeated dose toxicity - Assessment      Causes mild skin irritation., Causes serious eye irritation.

**111-76-2:**

Species: rat  
NOAEL: 30  
Application Route: Inhalation  
Exposure time: 14 wk  
Number of exposures: 6 h/d, 5 d/wk

**1330-20-7:**

Species: rat, male and female  
NOAEL: 250 mg/kg  
Application Route: Oral  
Exposure time: 103 wk  
Number of exposures: 5 d/wk  
Dose: 0, 250 or 500 mg/kg  
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

**67-56-1:**

Species: mouse, male and female  
NOAEL: 1.3 mg/l  
Application Route: Inhalation  
Exposure time: 12 mths  
Number of exposures: Continuous  
Dose: 0, 0.013, 0.13, 1.3 mg/L

**100-41-4:**

Species: rat, male and female  
NOAEL: 75 mg/kg  
Application Route: Oral  
Exposure time: 28 d  
Dose: 75, 250 and 750 mg/kg bw/day  
Method: OECD Test Guideline 407  
GLP: yes  
Symptoms: Increased kidney and liver weights

**142-82-5:**

Species: rat, male  
NOAEL: 12470 mg/m<sup>3</sup>  
Application Route: inhalation (vapour)  
Exposure time: 16 wks

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Number of exposures: 12 h/d, 7 d/wk  
Dose: 0, 12470 mg/3

Repeated dose toxicity - Causes skin irritation.  
Assessment

### **Aspiration toxicity**

#### **Product:**

May be fatal if swallowed and enters airways.

#### **Components:**

##### **108-88-3:**

Aspiration Toxicity - Category 1

##### **64742-49-0:**

May be fatal if swallowed and enters airways.

##### **64742-89-8:**

May be fatal if swallowed and enters airways.

##### **68410-97-9:**

May be fatal if swallowed and enters airways.

##### **111-76-2:**

No aspiration toxicity classification

##### **1330-20-7:**

May be fatal if swallowed and enters airways.

##### **100-41-4:**

May be fatal if swallowed and enters airways.

##### **142-82-5:**

Aspiration Toxicity - Category 1

### **Further information**

#### **Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### **Components:**

##### **108-88-3:**

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l Exposure time: 96 h Test Type: flow-through test
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Toxicity to daphnia and other aquatic invertebrates	EC50 (Ceriodaphnia dubia): 3.78 mg/l Exposure time: 48 h Test Type: Renewal
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Toxicity to algae	EC50 (Chlorella vulgaris (Fresh water algae)): 134 mg/l Exposure time: 3 h Test Type: static test
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Toxicity to bacteria	IC50 (Bacteria): 84 mg/l Exposure time: 24 h Test Type: Static
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Ecotoxicology Assessment Acute aquatic toxicity	Toxic to aquatic life.
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Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
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##### **64742-49-0:**

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l Exposure time: 96 h
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Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h
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Toxicity to algae	EC50 (Pseudokirchneriella subcapitata (green algae)): 3.71 mg/l Exposure time: 96 h
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Ecotoxicology Assessment Acute aquatic toxicity	Toxic to aquatic life.
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Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
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##### **64742-89-8:**

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)): 8.2 mg/l
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	Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 4.5 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes
Toxicity to algae	EC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 3.7 mg/l Exposure time: 96 h Test Type: static test
Ecotoxicology Assessment Acute aquatic toxicity	Toxic to aquatic life.
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
<b>68410-97-9:</b>	
Toxicity to fish	LC50 ( <i>Pimephales promelas</i> (fathead minnow)): 8.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 4.5 mg/l Exposure time: 48 h
Toxicity to algae	EC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 3.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Ecotoxicology Assessment Acute aquatic toxicity	Toxic to aquatic life.
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
<b>67-64-1:</b>	
Toxicity to fish	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 6,100 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 7,630 mg/l Exposure time: 48 h Test substance: Acetone
Toxicity to algae	Remarks: No data available
<b>111-76-2:</b>	
Toxicity to fish	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 1,474

	mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: no
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 1,800 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: no
Toxicity to algae	EC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no
<b>1330-20-7:</b>	
Toxicity to fish	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 2.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 1 mg/l Exposure time: 24 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae	EC50 ( <i>Pseudokirchneriella subcapitata</i> ): 4.36 mg/l End point: Growth rate Exposure time: 73 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
Ecotoxicology Assessment	
Acute aquatic toxicity	Toxic to aquatic life.
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
<b>67-56-1:</b>	
Toxicity to fish	LC50 ( <i>Lepomis macrochirus</i> (Bluegill sunfish)): 15,400 mg/l Exposure time: 96 h Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	EC50 ( <i>Scenedesmus capricornutum</i> (fresh water algae)): 22,000 mg/l End point: Growth rate Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to bacteria	IC50 (activated sludge): > 1,000 mg/l End point: Growth rate Exposure time: 3 h Test Type: Static Method: OECD Test Guideline 209

#### **100-41-4:**

Toxicity to fish	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 4.2 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 1.8 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	EC50 ( <i>Pseudokirchneriella subcapitata</i> ): 5.4 mg/l Exposure time: 72 h Test Type: static test
Toxicity to bacteria	Remarks: No data available

#### **Ecotoxicology Assessment** **Acute aquatic toxicity**

Toxic to aquatic life.

#### **Chronic aquatic toxicity**

Toxic to aquatic life with long lasting effects.

#### **142-82-5:**

Toxicity to fish	LC50 ( <i>Carassius auratus</i> (goldfish)): 4 mg/l Exposure time: 24 h Remarks: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to daphnia and other aquatic invertebrates	EC50 ( <i>Daphnia magna</i> (Water flea)): 1.5 mg/l Exposure time: 48 h Test Type: static test Remarks: Very toxic to aquatic organisms.

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Toxicity to algae	Remarks: No data available
Ecotoxicology Assessment	
Acute aquatic toxicity	Very toxic to aquatic life.
Chronic aquatic toxicity	Very toxic to aquatic life with long lasting effects.

### **Persistence and degradability**

#### **Components:**

##### **108-88-3:**

Biodegradability	Inoculum: Sewage Biodegradation: 100 % Remarks: Readily biodegradable
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##### **64742-49-0:**

Biodegradability	aerobic Inoculum: activated sludge Concentration: 20 mg/l Biodegradation: 74.30 % Exposure time: 56 d GLP: yes Remarks: Inherently biodegradable.
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##### **64742-89-8:**

Biodegradability	Concentration: 49.2 mg/l Result: Readily biodegradable. Biodegradation: 77 % Testing period: 2 d Exposure time: 28 d GLP: yes
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##### **67-64-1:**

Biodegradability	Remarks: Readily biodegradable
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##### **111-76-2:**

Biodegradability	aerobic Inoculum: Activated sludge, domestic, adaption not specified Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: no
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##### **1330-20-7:**

Biodegradability	Inoculum: activated sludge Result: Readily biodegradable.
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	Biodegradation: 72 % Exposure time: 20 d
<b>67-56-1:</b>	
Biodegradability	aerobic Result: Readily biodegradable. Biodegradation: 72 % Remarks: Readily biodegradable
Biochemical Oxygen Demand (BOD)	600 - 1,120 mg/g
Chemical Oxygen Demand (COD)	1,420 mg/g
BOD/COD	BOD: 600 - 1120COD: 1420
Stability in water	Hydrolysis: 91 % at 19 °C (72 h) Remarks: Hydrolyses on contact with water. Hydrolyses readily.
<b>100-41-4:</b>	
Biodegradability	Inoculum: activated sludge Concentration: 22 mg/l Result: Readily biodegradable. Biodegradation: 70 % Exposure time: 28 d GLP: yes
<b>142-82-5:</b>	
Biodegradability	Primary biodegradation Inoculum: activated sludge Concentration: 100 mg/l Biodegradation: 100 % Testing period: 2 d Exposure time: 25 d Remarks: Readily biodegradable
<b>Bioaccumulative potential</b>	
<b><u>Components:</u></b>	
<b>108-88-3:</b>	
Partition coefficient: n-octanol/water	log Pow: 2.73
<b>64742-49-0:</b>	
Partition coefficient: n-octanol/water	Remarks: No data available



**64742-89-8:**

Partition coefficient: n-octanol/water

log Pow: 2.13 - 4.85 (25 °C)

**67-64-1:**

Partition coefficient: n-octanol/water

log Pow: -0.24

**111-76-2:**

Partition coefficient: n-octanol/water

log Pow: 0.83

**1330-20-7:**

Partition coefficient: n-octanol/water

log Pow: 2.77 - 3.15

**67-56-1:**

Bioaccumulation

Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 1.0

Exposure time: 72 d

Temperature: 20 °C

Concentration: 5 mg/l

Remarks: This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Partition coefficient: n-octanol/water

log Pow: -0.77

**100-41-4:**

Partition coefficient: n-octanol/water

log Pow: 2.92

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

**Components:**

**100-41-4:**

Results of PBT and vPvB assessment

This substance is not considered to be persistent, bio-accumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging

Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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**SECTION 14. TRANSPORT INFORMATION**

**IATA (International Air Transport Association):** UN1263, PAINT RELATED MATERIAL, 3, II, Flash Point:-20 °C(-4 °F)

**IMDG (International Maritime Dangerous Goods):** UN1263, PAINT RELATED MATERIAL, 3, II

**DOT (Department of Transportation):** UN1263, PAINT RELATED MATERIAL, 3, II

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**SECTION 15. REGULATORY INFORMATION**

**OSHA Hazards**

Flammable liquid, Carcinogen, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Moderate skin irritant, Moderate eye irritant, Moderate respiratory irritant, Teratogen, Reproductive hazard, Mutagen

**WHMIS Classification**

B2: Flammable liquid  
D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects

D1B: Toxic Material Causing Immediate and Serious  
Toxic Effects  
D2A: Very Toxic Material Causing Other Toxic Effects  
D2B: Toxic Material Causing Other Toxic Effects

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Mixed xylenes	1330-20-7	100	1859

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312  
Hazards**

Fire Hazard  
Chronic Health Hazard  
Acute Health Hazard

**Clean Air Act**

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

108-88-3	Toluene	38.7177 %
67-56-1	Methanol	2.9356 %
100-41-4	Ethylbenzene	1.6696 %
107-21-1	Ethylene glycol	0.089 %
71-43-2	Benzene	0.0679 %
110-54-3	Hexane	0.0056 %
91-20-3	Naphthalene	0.0005 %
98-82-8	Cumene	0.0001 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

108-88-3	Toluene	38.7177 %
67-64-1	Acetone	15.6238 %
111-76-2	2-Butoxy ethanol	8.9142 %
1330-20-7	Mixed xylenes	5.3787 %
67-56-1	Methanol	2.9356 %
100-41-4	Ethylbenzene	1.6696 %
110-82-7	Cyclohexane	0.7124 %
107-21-1	Ethylene glycol	0.089 %
71-43-2	Benzene	0.0679 %
98-82-8	Cumene	0.0001 %

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

108-88-3	Toluene	38.7177 %
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1330-20-7	Mixed xylenes	5.3787 %
100-41-4	Ethylbenzene	1.6696 %
110-82-7	Cyclohexane	0.7124 %
71-43-2	Benzene	0.0679 %
91-20-3	Naphthalene	0.0005 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

108-88-3	Toluene	38.7177 %
1330-20-7	Mixed xylenes	5.3787 %
100-41-4	Ethylbenzene	1.6696 %
110-82-7	Cyclohexane	0.7124 %
71-43-2	Benzene	0.0679 %
91-20-3	Naphthalene	0.0005 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

108-88-3	Toluene	38.7177 %
100-41-4	Ethylbenzene	1.6696 %

## US State Regulations

### Massachusetts Right To Know

108-88-3	Toluene	30 - 50 %
67-64-1	Acetone	10 - 20 %
111-76-2	2-Butoxy ethanol	5 - 10 %
1330-20-7	Mixed xylenes	5 - 10 %
67-56-1	Methanol	1 - 5 %
100-41-4	Ethylbenzene	1 - 5 %
71-43-2	Benzene	0 - 0.1 %

### Pennsylvania Right To Know

108-88-3	Toluene	30 - 50 %
64742-49-0	Naphtha (pet), hydrotreated It	0 - 30 %
64742-89-8	Solvent naphtha (pet), It aliph.	0 - 30 %
68410-97-9	Distillates, pet, It dist hydrotreat process, low-boil	0 - 30 %
67-64-1	Acetone	10 - 20 %
111-76-2	2-Butoxy ethanol	5 - 10 %
1330-20-7	Mixed xylenes	5 - 10 %
67-56-1	Methanol	1 - 5 %
100-41-4	Ethylbenzene	1 - 5 %
110-82-7	Cyclohexane	0.1 - 1 %
107-21-1	Ethylene glycol	0 - 0.1 %
71-43-2	Benzene	0 - 0.1 %

### New Jersey Right To Know

108-88-3	Toluene	30 - 50 %
64742-49-0	Naphtha (pet), hydrotreated It	0 - 30 %
64742-89-8	Solvent naphtha (pet), It aliph.	0 - 30 %

68410-97-9	Distillates, pet, lt dist hydrotreat process, low-boil	0 - 30 %
67-64-1	Acetone	10 - 20 %
111-76-2	2-Butoxy ethanol	5 - 10 %
1330-20-7	Mixed xylenes	5 - 10 %
67-56-1	Methanol	1 - 5 %
100-41-4	Ethylbenzene	1 - 5 %

**California Prop 65**

WARNING! This product contains a chemical known to the State of California to cause cancer.

100-41-4	Ethylbenzene
71-43-2	Benzene
91-20-3	Naphthalene
98-82-8	Cumene

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

108-88-3	Toluene
67-56-1	Methanol
71-43-2	Benzene

**The components of this product are reported in the following inventories:**

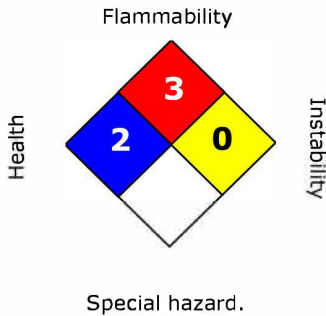
<b>Switzerland. New notified substances and declared preparations</b>	y (positive listing) (The formulation contains substances listed on the Swiss Inventory)
<b>United States TSCA Inventory</b>	y (positive listing) (On TSCA Inventory)
<b>Canadian Domestic Substances List (DSL)</b>	y (positive listing) (All components of this product are on the Canadian DSL.)
<b>Australia Inventory of Chemical Substances (AICS)</b>	y (positive listing) (On the inventory, or in compliance with the inventory)
<b>New Zealand. Inventory of Chemical Substances</b>	n (Negative listing) (Not in compliance with the inventory)
<b>Japan. ENCS - Existing and New Chemical Substances Inventory</b>	n (Negative listing) (Not in compliance with the inventory)

<b>Japan. ISHL - Inventory of Chemical Substances (METI)</b>	n (Negative listing) (Not in compliance with the inventory)
<b>Korea. Korean Existing Chemicals Inventory (KECI)</b>	y (positive listing) (On the inventory, or in compliance with the inventory)
<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>	y (positive listing) (On the inventory, or in compliance with the inventory)
<b>China. Inventory of Existing Chemical Substances in China (IECSC)</b>	y (positive listing) (On the inventory, or in compliance with the inventory)

SECTION 16. OTHER INFORMATION

Version 2.0  
Revision Date 06/19/2019

NFPA:



HMIS III:

<b>HEALTH</b>	<b>2*</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 =Slight,  
2 = Moderate, 3 = High  
4 =Extreme, \* = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

**Legacy MSDS:**

000000083804

**Material number:**

616863, 616766

<b>Key or legend to abbreviations and acronyms used in the safety data sheet</b>			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50			Lethal Concentration 50%