

Hexane with 50-150 ppm Pesticide Standard Mix

YSI Inc.

Part Number: 234023 and 222893
 Version No: 2.1
 Safety Data Sheet according to OSHA HazCom Standard (2024) requirements

Initial Date: 01/27/2025
 Revision Date: 01/27/2025
 Print Date: 03/13/2026
 S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Hexane with 50-150 ppm Pesticide Standard Mix
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	YSI Inc.	GFS Chemicals, Inc.	Xylem
Address	1700/1725 Brannum Ln Yellow Springs OH 45387 United States	PO Box 245 Powell OH 43065 United States	1000 Hurricane Shoals Road, Building D, Suite 300 Lawrenceville GA 30043 United States
Telephone	(937) 767-7241	740-881-5501 800-858-9682	+1 770 822 6898
Fax	Not Available	740-881-5989	+1 770 822 9165
Website	www.yxi.com	www.gfschemicals.com	https://www.bellinghamandstanley.com
Email	MSDSinfo@ysi.com	service@gfschemicals.com	sales.bs.us@xyleminc.com

Emergency phone number

Association / Organisation	CHEMTREC	ChemTrec
Emergency telephone number(s)	(800) 424-9300	800-424-9300
Other emergency telephone number(s)	011 703-527-3887	Not Available

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.





NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health, Red = Fire, Yellow = Reactivity and White = Special (Oxidizer or water reactive substances)

Classification	Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2
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Label elements

Hazard pictogram(s)	   
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Hexane with 50-150 ppm Pesticide Standard Mix

Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
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 mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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No further product hazard information.

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
110-54-3	97.415507	<u>n-hexane</u>
67-64-1	1.988072	<u>acetone</u>
58-89-9	0.099404	<u>lindane</u>
2921-88-2	0.099404	<u>chlorpyrifos</u>
298-02-2	0.099404	<u>phorate</u>

Continued...

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CAS No	%[weight]	Name
103-33-3	0.099404	azobenzene
1912-24-9	0.099404	atrazine
333-41-5	0.099404	diazinon

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Following acute or short term repeated exposures to n-hexane:

- ▶ Large quantities of n-hexane are expired by the lungs after vapour exposure (50-60%). Humans exposed to 100 ppm demonstrate an n-hexane biological half life of 2 hours.
- ▶ Initial attention should be directed towards evaluation and support of respiration. Cardiac dysrhythmias are a potential complication.

INGESTION:

- ▶ Ipecac syrup should be considered for ingestion of pure hexane exceeding 2-3ml/kg. Extreme caution must be taken to avoid aspiration since small amounts of n-hexane intratracheally, produce a severe chemical pneumonitis.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

BEIs represent the levels of determinants which are most likely to be observed in specimens collected in a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the Exposure Standard (ES or TLV).

Determinant	Index	Sampling Time	Comments
1. 2,5-hexanedione in urine	5 mg/gm creatinine	End of shift	NS
2. n-Hexane in end-exhaled air			SQ

NS: Non-specific determinant; Metabolite observed following exposure to other materials.

SQ: Semi-quantitative determinant; Interpretation may be ambiguous - should be used as a screening test or confirmatory test.

SECTION 5 Fire-fighting measures

Extinguishing media

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves in the event of a fire. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use fire fighting procedures suitable for surrounding area. ▶ DO NOT approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location. ▶ If safe to do so, remove containers from path of fire. ▶ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ carbon dioxide (CO2) ▶ other pyrolysis products typical of burning organic material. <p>May emit clouds of acrid smoke May emit poisonous fumes. May emit corrosive fumes.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb small quantities with vermiculite or other absorbent material. ▶ Wipe up. ▶ Collect residues in a flammable waste container.
Major Spills	<p>Moderate hazard.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Stop leak if safe to do so. ▶ Contain spill with sand, earth or vermiculite. ▶ Collect recoverable product into labelled containers for recycling. ▶ Neutralise/decontaminate residue (see Section 13 for specific agent). ▶ Collect solid residues and seal in labelled drums for disposal. ▶ Wash area and prevent runoff into drains. ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▶ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<ul style="list-style-type: none"> ▶ Avoid skin contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Avoid contact with moisture. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Polyethylene or polypropylene container. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection**Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	n-hexane	n-Hexane	500 ppm / 1800 mg/m ³	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	n-hexane	n-Hexane	50 ppm / 180 mg/m ³	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	acetone	Acetone	1000 ppm / 2400 mg/m ³	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	acetone	Acetone	250 ppm / 590 mg/m ³	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	lindane	Lindane	0.5 mg/m ³	Not Available	Not Available	Skin designation
US OSHA Permissible Exposure Limits (PELs) Table Z-3	lindane	Inert or Nuisance Dust: Total Dust	15 mg/m ³ / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	lindane	Inert or Nuisance Dust: Respirable fraction	5 mg/m ³ / 15 mppcf	Not Available	Not Available	Not Available

Continued...

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	lindane	Lindane	0.5 mg/m3	Not Available	Not Available	[skin]
US OSHA Permissible Exposure Limits (PELs) Table Z-1	chlorpyrifos	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	chlorpyrifos	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	chlorpyrifos	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	chlorpyrifos	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	chlorpyrifos	Chlorpyrifos	0.2 mg/m3	0.6 mg/m3	Not Available	[skin]
US NIOSH Recommended Exposure Limits (RELs)	phorate	Phorate	0.05 mg/m3	0.2 mg/m3	Not Available	[skin]
US OSHA Permissible Exposure Limits (PELs) Table Z-1	azobenzene	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	azobenzene	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	azobenzene	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	azobenzene	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	azobenzene	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D - Substances with No Established RELs
US NIOSH Recommended Exposure Limits (RELs)	atrazine	Atrazine	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	diazinon	Diazinon®	0.1 mg/m3	Not Available	Not Available	[skin]

Emergency Limits


Ingredient	TEEL-1	TEEL-2	TEEL-3
n-hexane	260 ppm	Not Available	Not Available
acetone	Not Available	Not Available	Not Available
lindane	9.1 mg/m3	100 mg/m3	1,000 mg/m3
chlorpyrifos	0.6 mg/m3	15 mg/m3	44 mg/m3
phorate	0.0036 mg/m3	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
n-hexane	Not Available	Not Available
acetone	2,500 ppm	Not Available
lindane	50 mg/m3	Not Available
chlorpyrifos	Not Available	Not Available
phorate	Not Available	Not Available
azobenzene	Not Available	Not Available
atrazine	Not Available	Not Available
diazinon	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.				
	<table border="1"> <tr> <td>Type of Contaminant:</td> <td>Air Speed:</td> </tr> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min)</td> </tr> </table>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)
Type of Contaminant:	Air Speed:				
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)				

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	<p>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</p> <p>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</p> <p>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)</p> <p>Within each range the appropriate value depends on:</p> <table border="1" data-bbox="384 383 1145 533"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>	Lower end of the range	Upper end of the range	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents	2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity	3: Intermittent, low production.	3: High production, heavy use	4: Large hood or large air mass in motion	4: Small hood-local control only	<p>0.5-1 m/s (100-200 f/min.)</p> <p>1-2.5 m/s (200-500 f/min.)</p> <p>2.5-10 m/s (500-2000 f/min.)</p>
Lower end of the range	Upper end of the range											
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents											
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity											
3: Intermittent, low production.	3: High production, heavy use											
4: Large hood or large air mass in motion	4: Small hood-local control only											
<p>Individual protection measures, such as personal protective equipment</p>												
<p>Eye and face protection</p>	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]. 											
<p>Skin protection</p>	<p>See Hand protection below</p>											
<p>Hands/feet protection</p>	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> - frequency and duration of contact, - chemical resistance of glove material, - glove thickness and - dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> - When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. - Contaminated gloves should be replaced. <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> - Excellent when breakthrough time > 480 min - Good when breakthrough time > 20 min - Fair when breakthrough time < 20 min - Poor when glove material degrades <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> - Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. - Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>											
<p>Body protection</p>	<p>See Other protection below</p>											
<p>Other protection</p>	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit. 											

Recommended material(s)
GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".

Respiratory protection

Type AX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

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The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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Material	CPI
PE/EVAL/PE	A
SARANEX-23 2-PLY	B
TEFLON	B
BUTYL	C
BUTYL/NEOPRENE	C
CPE	C
HYPALON	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
VITON	C
VITON/CHLOROBUTYL	C
VITON/NEOPRENE	C

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Not Available		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	224
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	-98	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	-23	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	3.0	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

SECTION 10 Stability and reactivity

Hexane with 50-150 ppm Pesticide Standard Mix

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information**Information on toxicological effects**

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	There is sufficient evidence to classify this material as toxic to reproductivity
h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated Exposure	There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

Inhaled	<p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p>
Ingestion	<p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p>
Skin Contact	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.</p>
Eye	<p>Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals.</p> <p>Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).</p>
Chronic	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Chronic exposure to atrazine through inhalation may cause decreased body weight and anaemia. Animal testing has not shown any propensity to cause birth defects, but has shown an increase in breast cancer. Bacteria may metabolise atrazine to produce cyanuric acid, which may potentially cause cancer.</p> <p>Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation. gamma-diketones are generally toxic to the nervous system. They can occur as commercial products or as metabolic products.</p>

Hexane with 50-150 ppm Pesticide Standard Mix	TOXICITY	IRRITATION
	Not Available	Not Available
n-hexane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye (Rodent - rabbit): 10mg - Mild
	Inhalation (Rat) LC50: 48000 ppm4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: 28710 mg/kg ^[2]	Skin: no adverse effect observed (not irritating) ^[1]

Hexane with 50-150 ppm Pesticide Standard Mix

	TOXICITY	IRRITATION
acetone	Dermal (rabbit) LD50: 20000 mg/kg ^[2]	Eye (Human): 186300ppm - Mild
	Inhalation (Mouse) LC50: 44 mg/L4h ^[2]	Eye (Human): 500ppm
	Oral (Rat) LD50: 5800 mg/kg ^[2]	Eye (Rodent - rabbit): 10uL - Mild
		Eye (Rodent - rabbit): 20mg - Severe
		Eye (Rodent - rabbit): 20mg/24H - Moderate
		Eye: adverse effect observed (irritating) ^[1]
		Skin (Rodent - rabbit): 395mg - Mild
	Skin (Rodent - rabbit): 500mg/24H - Mild	
	Skin: no adverse effect observed (not irritating) ^[1]	
lindane	Dermal (rabbit) LD50: 50 mg/kg ^[2]	Not Available
	Inhalation (Rat) LC50: 1.56 mg/l4h ^[2]	
	Oral (Rat) LD50: 76 mg/kg ^[2]	
chlorpyrifos	dermal (rat) LD50: 202 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: >0.2 mg/L4h ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Mouse) LD50: >69 mg/kg ^[1]	
phorate	dermal (rat) LD50: 2.5 mg/kg ^[2]	Skin (Human): 1%/48H
	Inhalation (Rat) LC50: 0.003 mg/L4h ^[2]	
	Oral (Rat) LD50: 1 mg/kg ^[2]	
azobenzene	Oral (Rat) LD50: 1000 mg/kg ^[2]	Not Available
atrazine	dermal (rat) LD50: >2000 mg/kg ^[2]	Eye (Mammal - species unspecified): 100mg - Severe
	Inhalation (Rat) LC50: >5.1 mg/l4h ^[2]	Eye (Rodent - rabbit): 6320ug - Severe
	Oral (Rat) LD50: 672 mg/kg ^[2]	Skin (Mammal - species unspecified): 500mg - Mild
		Skin (Rodent - rabbit): 38mg - Mild
diazinon	dermal (rat) LD50: 180 mg/kg ^[2]	Eye (Rodent - rabbit): 100mg - Severe
	Inhalation (Rat) LC50: >2.33 mg/l4h ^[2]	Skin (Rodent - rabbit): 500mg - Moderate
	Oral (Rat) LD50: 66 mg/kg ^[2]	

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

Hexane with 50-150 ppm Pesticide Standard Mix	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.
N-HEXANE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
ACETONE	For acetone: The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/m3 does not negatively impact an individual's emotional regulation, behaviour, or learning ability.
LINDANE	ADI: 0.003 mg/kg/day NOEL: 0.31 mg/kg/day 551indane WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS . Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002]
CHLORPYRIFOS	Oral (rat) LD50: 135-163 mg/kg * Oral (rabbit) LD50: 1000-2000 mg/kg * Inhalation (rat) LC50: >0.2 mg/l(14 ppb)/ 4-6hr * NOEL (2 y) based on blood plasma cholinesterase activity, for rats 0.03, dogs 0.01 mg/kg daily * ADI 0.01 mg/kg b.w. * Toxicity Class WHO II;EPA II * Non-teratogenic *

Continued...

Hexane with 50-150 ppm Pesticide Standard Mix

	Common symptoms include headache, sweating, nausea, vomiting, diarrhoea, abdominal cramps, reduced heart rate, blurred vision, shrinking of the pupil, narrowing of the airway with excess phlegm, fluid in the lung, and difficulty in breathing. There may be muscle twitch, salivation, excess secretion of tears, "pins and needles", lightheadedness, headache and memory impairment which may last weeks or months after the initial symptoms have resolved. Children may show a decline in school performance for up to about 6 months from exposure. Long term exposure has been linked to unstable blood pressure and pulse. [* The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council]		
PHORATE	ADI: 0.0005 mg/kg/day NOEL: 0.05 mg/kg/day		
AZOBENZENE	Oral (rat) TDLo: 7350 mg/kg/2y - C WARNING: Azobenzene has shown carcinogenicity and mutagenic activity in non human test systems and because of its potential to be metabolised to benzidine, azobenzene should be considered hazardous to human health. (Source: NIOSHTIC)		
ATRAZINE	Oral (rat) LD50: 1869-3080 mg/kg For atrazine technical: ADI: 0.005 mg/kg/day NOEL: 0.5 mg/kg/day The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. The main health effects of atrazine exposure are reproductive/developmental effects following exposure by inhalation, swallowing and skin contact. Atrazine seems to increase premature delivery but not reduce fertility; animal testing shows that atrazine can alter hormone levels and this may be responsible. Studies in the US have shown that there is an association between atrazine in drinking water and an increased risk in small-for-gestational-age babies and other birth defects. Animal studies have also shown a variety of developmental defects involving multiple body systems. There is insufficient data to ascertain whether atrazine increases cancer. Animal studies have also shown that atrazine may damage the heart, liver and kidneys.		
DIAZINON	Reproductive effector ADI: 0.001 mg/kg/day NOEL: 0.1 mg/kg/day WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.		
Hexane with 50-150 ppm Pesticide Standard Mix & DIAZINON	Diazinon can be degraded to more toxic forms, especially in the presence of moisture and UV radiation. Diazinon poisoning symptoms include weakness, headaches, chest tightness, blurred vision, non-reactive pinpoint pupils, salivation, sweating, nausea, vomiting, diarrhoea, abdominal cramps, and slurred speech. Deaths have occurred from both swallowing and skin contact at very high levels. Chronic effects include enzyme inhibition in brain and blood cells. Diazinon may cause birth defects, but it does not seem to cause cancer. It is not known whether diazinon causes mutations. The product is passed out of the body through urine and in the faeces.		
Hexane with 50-150 ppm Pesticide Standard Mix & PHORATE	Phorate is highly toxic when swallowed and on skin contact. Symptoms are similar to those caused by other organophosphate pesticides, but they may occur at lower doses. Symptoms may include numbness, tingling sensations, inco-ordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty breathing or depression in breathing, and slow heartbeat. Very high doses may result in unconsciousness, incontinence, and convulsions or death. Toxicity seems to vary with age with the young being more susceptible. Studies indicate that direct eye exposure may cause blurring, excessive tear secretion and eye pain. Repeated low-level exposure may cause slow heart rate and cholinesterase inhibition with resultant effects to the muscle and nerves. Phorate does not seem to have caused any reproductive effects, birth defects or mutations. There is no evidence of phorate causing cancer. It is readily absorbed by the skin and digestive tract, and may remain in the body for an extended time (over 6 days).		
ACETONE & ATRAZINE & DIAZINON	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.		
CHLORPYRIFOS & PHORATE & DIAZINON	Dithiophosphate alkyl esters is corrosive and toxic to the tissues on skin or oral exposure depending on its concentration. Symptoms included diarrhoea, skin and gastrointestinal irritation, lethargy, reduced food intake, staining about the nose and eye; occasionally, there was drooping of the eyelid, hair standing up, inco-ordination and salivation. Toxicity is reduced following inhalation (due to vapour pressure and high viscosity). It may produce reproductive, developmental and genetic toxicity on experimental animals, but no substantive data is available to establish effect on humans.		
AZOBENZENE & ATRAZINE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.		
ATRAZINE & DIAZINON	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.		
Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✓
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✓
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

Hexane with 50-150 ppm Pesticide Standard Mix	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
n-hexane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	4h	Algae or other aquatic plants	0.12mg/L	4
	LC50	96h	Fish	113mg/L	4

Continued...

Hexane with 50-150 ppm Pesticide Standard Mix

	Endpoint	Test Duration (hr)	Species	Value	Source
acetone	EC50	72h	Algae or other aquatic plants	5600-10000mg/L	4
	EC50	48h	Crustacea	6098.4mg/L	5
	EC50	96h	Algae or other aquatic plants	9.873-27.684mg/l	4
	NOEC(ECx)	12h	Fish	0.001mg/L	4
	LC50	96h	Fish	3744.6-5000.7mg/L	4
lindane	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	0.001mg/L	4
	EC50	72h	Algae or other aquatic plants	3.2mg/L	4
	EC50	48h	Crustacea	160.048mg/l	1
	EC50	96h	Algae or other aquatic plants	1.62mg/L	4
NOEC(ECx)	48h	Crustacea	120.048mg/l	1	
chlorpyrifos	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1344h	Fish	49-493	7
	EC50	72h	Algae or other aquatic plants	0.58mg/L	2
	EC50	48h	Crustacea	<0.001mg/L	5
	NOEC(ECx)	672h	Fish	<0.001mg/L	2
	EC50	96h	Algae or other aquatic plants	0.112-0.169mg/L	4
LC50	96h	Fish	<0.001mg/L	4	
phorate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	0.001mg/L	4
	NOEC(ECx)	504h	Crustacea	<0.001mg/L	4
	EC50	96h	Algae or other aquatic plants	1.1-1.5mg/L	4
LC50	96h	Fish	0.001-0.002mg/L	4	
azobenzene	Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	504h	Crustacea	0.009mg/L	5	
atrazine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.043mg/l	1
	EC50	48h	Crustacea	>4.9mg/l	1
	NOEC(ECx)	336h	Algae or other aquatic plants	0.008mg/l	1
	EC50	96h	Algae or other aquatic plants	0.13mg/l	1
LC50	96h	Fish	0.15-0.32mg/l	4	
diazinon	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1008h	Fish	7-46.9	7
	EC50	48h	Crustacea	0.00041mg/l	1
	NOEC(ECx)	504h	Crustacea	0.00017mg/l	1
	EC50	96h	Algae or other aquatic plants	0.131-1.35mg/l	4
LC50	96h	Fish	<0.001mg/l	4	
Legend:	<i>Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data</i>				

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Atrazine (6-chloro-N-ethyl-N-isopropyl-1,3,5-triazine-2,4-diamine), a triazine herbicide, is widely used on major food crops as well as non-crop. Atrazine is mobile and persistent in surface and groundwater. Persistence of atrazine in water is influenced by temperature, productivity, pH, nitrate concentration and organic carbon. Atrazine is degraded slowly in most environments and its main route of dissipation is through biodegradation under aerobic conditions. Water - Because atrazine is mobile, it can easily be transported via spray drift and runoff to surface water and may contaminate groundwater. Soil - Atrazine is persistent in soil environment. Presence of mobile colloids in soil enhances adsorptive potential of atrazine to soil, which will then be carried through preferential flow paths into the soil and will end up into groundwater. Air - Atrazine can enter the atmosphere via volatilization and spray drift and is aerially deposited. Study shows that atrazine has no potential to undergo direct photolysis but it can undergo photooxidation in the atmosphere by reaction with photochemically produced hydroxyl radicals.

Ecotoxicity:

Aquatic toxicity: Toxicity tests conducted on several aquatic organisms shows that atrazine is not very acutely toxic to aquatic animals.

Fish LC50 (96h): rainbow trout 5.3 mg/l; spot (*Leiostomus xanthurus*) 8.5 mg/l; sheepshead minnow >16 mg/l

Crustacean LC50 (96h): copepod (*Acartia tonsa*) 88 ug/l

Aquatic invertebrate LC50 (48h): midge (*Chironomus tentans*) 0.72 mg/l

Continued...

Hexane with 50-150 ppm Pesticide Standard Mix

Chronic NOAEC toxicity: brook trout 65 ug/l; scud (*Gammarus fasciatus*) 60 ug/l; sheepshead minnow (*Cyprinodon variegatus*) 1,900 ug/l; mysid shrimp (*Mysidopsis bahia*) 80 ug/l

Avian toxicity: Acute oral and avian dietary tests conducted on birds show that atrazine is practically non-toxic.

Avian acute oral LD50: 940 mg/kg

Avian dietary LC50: >5,000 ppm

LOAEL: bobwhite and mallard ducks 225ppm

NOAEL: bobwhite and mallard ducks 225 ppm

Terrestrial plants toxicity: Toxicity tests results show that atrazine is toxic to terrestrial plants.

EC25 (for seedling emergence test): 0.003 lbs ai/A

EC25 (for vegetative vigor test): 0.008 lbs ai/A

for diazinon:

Environmental Fate:

Breakdown in soil and groundwater: Diazinon has a low persistence in soil. The half-life is 2 to 4 weeks. Bacterial enzymes can speed the breakdown of diazinon and have been used in treating emergency situations such as spills. Diazinon seldom migrates below the top half inch in soil, but in some instances it may contaminate groundwater.

Breakdown in water: The breakdown rate is dependent on the acidity of water. At highly acidic levels, one half of the compound disappeared within 12 hours while in a neutral solution, the pesticide took 6 months to degrade to one half of the original concentration.

Breakdown in vegetation: In plants, a low temperature and high oil content tend to increase the persistence of diazinon. Generally the half-life is rapid in leafy vegetables, forage crops and grass. The range is from 2 to 14 days. In treated rice plants only 10% of the residue was present after 9 days. Diazinon is absorbed by plant roots when applied to the soil and translocated to other parts of the plant.

Ecotoxicity:

Bird LD50: 2.75- 40.8 mg/kg

Birds are quite susceptible to diazinon poisoning

Fish LC50: rainbow trout 2.6-3.2 mg/l; fathead minnow, goldfish <15 mg/l

Diazinon is highly toxic to fish. In hard water, lake trout and cutthroat trout are somewhat more resistant. Warm water fish such as fathead minnows and goldfish are even more resistant. There is some evidence that saltwater fish are more susceptible than freshwater fish. Bioconcentration ratios range from 200 in minnows to 17.5 for guppies, indicating that diazinon does not bioconcentrate significantly in fish.

Effects on other organisms: Diazinon is highly toxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Phorate is moderately persistent in the soil environment and its actual residence time is affected by soil-clay organic matter content, rainfall, and soil pH. Phorate binds moderately to soil and is slightly soluble in water thus it may not be highly mobile in most soils and will be transported with runoff via sediment and water. Phorate has low potential to leach and contaminate groundwater.

Breakdown in water: Phorate in water may undergo biodegradation and hydrolysis depending on the water pH. Degradation of phorate produces non-toxic water soluble products.

Breakdown in vegetation: Phorate per se is not persistent in plants, however plants can metabolize phorate forming a very potent anticholinesterase agents like sulfoxide and sulfone derivatives. Phorates and its soil metabolites are absorbed by plants roots and are translocated to above-ground portions of the plant.

Ecotoxicity: Toxicity tests conducted on several organisms show that the toxicity effects of phorate ranges from highly to very highly toxic to birds, fish, aquatic vertebrates and bees.

Bird LD50: chukar 12.8 mg/kg; starlings 7.5 mg/kg; mallard 0.6-2.5 mg/kg, northern bobwhite quail 7-21 mg/kg, red-winged blackbird 1 mg/kg, ring-necked pheasants 7 mg/kg

Bird LC50 (5-8-day dietary): Japanese quail, mallard, northern bobwhite quail, ring-neck pheasant 370-580 ppm.

Fish LC50 (96 h): cutthroat trout, bluegill sunfish, large-mouth bass 2-13 ug/l, northern pike 110 ug/l, channel catfish 280 ug/l

Freshwater invertebrates LC50 (96 h): stone-fly, scud 4 ug/l; amphipods 0.006 ug/l

Bullfrog LD50 85 mg/kg

Bee LD50: 10 ug/bee (topical application)

For n-Hexane: Log Kow: 3.17-3.94; Henry's Law Constant: 1.69 atm-m³ mol; Vapor Pressure: 150 mm Hg @ 25 C; Log Koc: 2.90 to 3.61. BOD 5, (if unstated): 2.21; COD: 0.04; ThOD: 3.52.

Atmospheric Fate: n-Hexane is not expected to be directly broken down by sunlight. The main atmospheric removal mechanism is through reactions with hydroxyl radicals, with an approximate half-life of 2.9 days. The smog-producing potential of n-hexane is very low, compared to other alkanes, or chlorinated VOCs. Hydroxyl ion reactions in the upper troposphere, therefore, are probably the primary mechanisms for n-hexane degradation in the atmosphere.

Terrestrial Fate: Surface evaporation is expected to be the main fate process of this substance in soil. The substance has a moderate ability to sorb to soil particles but, is expected to have low potential for leaching into the lower soil depths. n-Hexane is expected to generally stay near the soil surface and, if not appreciably sorbed into the soil matrix, will eventually evaporate. Exceptions would involve locations with shallow groundwater tables where large spills occur - in such cases, n-hexane would spread out to contaminate a large volume of soil. Once introduced into groundwater, n-hexane may be fairly persistent, since its degradation by water is slow and opportunities for biodegradation may be limited, (due to low oxygen conditions), or, where nutrients, such as nitrogen or phosphorus, are in limited supply. Biological breakdown is probably the most significant degradation mechanism in groundwater. *Pseudomonas mendocina* bacteria have been shown to break the substance down in groundwater and mixed/pure bacterial cultures can utilize the substance, in the presence of oxygen. The most important biological breakdown process involves the conversion of n-hexane to primary alcohols, aldehydes and, ultimately, into fatty acids. In general, unless the n-hexane is buried at some depth within a soil or sediment, evaporation is generally assumed to occur at a much more rapid rate than chemical or biochemical degradation processes.

Aquatic Fate: The dominant transport process from water is evaporation, with an estimated half-life of <3 hours. For standing bodies of water, a half-life no longer than 6.8 days is estimated. The substance has very low water solubility and is resistant to breakdown by water. Few data exist for the biological breakdown of n-hexane in water, however; this process is not considered to be as rapid as evaporation. N-Hexane may be persistent if released to deep sediment.

Ecotoxicity: This substance is not expected to concentrate/accumulate in aquatic organisms or the food chain. These substances are considered to be the most readily biodegradable fractions in petroleum, particularly when oxygen is present in solution. The substance is moderately toxic to rainbow trout, fathead minnow, bluegill, and *Daphnia* water fleas.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-hexane	LOW	LOW
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
lindane	HIGH (Half-life = 240.21 days)	LOW (Half-life = 3.85 days)
chlorpyrifos	HIGH	HIGH
phorate	HIGH	HIGH
azobenzene	HIGH	HIGH
atrazine	HIGH	HIGH
diazinon	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
n-hexane	MEDIUM (LogKOW = 3.9)
acetone	LOW (BCF = 0.69)
lindane	MEDIUM (BCF = 1400)

Hexane with 50-150 ppm Pesticide Standard Mix

Ingredient	Bioaccumulation
chlorpyrifos	HIGH (BCF = 2880)
phorate	LOW (LogKOW = 3.56)
azobenzene	MEDIUM (LogKOW = 3.82)
atrazine	LOW (BCF = 15)
diazinon	MEDIUM (BCF = 540)

Mobility in soil

Ingredient	Mobility
n-hexane	LOW (Log KOC = 149)
acetone	HIGH (Log KOC = 1.981)
lindane	LOW (Log KOC = 3380)
chlorpyrifos	LOW (Log KOC = 6829)
phorate	LOW (Log KOC = 443.8)
azobenzene	LOW (Log KOC = 1954)
atrazine	LOW (Log KOC = 230.4)
diazinon	LOW (Log KOC = 1337)

Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	
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Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

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

Product name	Group
n-hexane	Not Applicable
acetone	Not Applicable

Hexane with 50-150 ppm Pesticide Standard Mix

Product name	Group
lindane	Not Applicable
chlorpyrifos	Not Applicable
phorate	Not Applicable
azobenzene	Not Applicable
atrazine	Not Applicable
diazinon	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
n-hexane	Not Applicable
acetone	Not Applicable
lindane	Not Applicable
chlorpyrifos	Not Applicable
phorate	Not Applicable
azobenzene	Not Applicable
atrazine	Not Applicable
diazinon	Not Applicable

SECTION 15 Regulatory information

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

n-hexane is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
 US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
 US - California Proposition 65 - Reproductive Toxicity
 US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
 US - Massachusetts - Right To Know Listed Chemicals
 US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Flammables
 US - New Jersey Right to Know Hazardous Substances
 US - Pennsylvania - Hazardous Substance List
 US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
 US Clean Air Act - Hazardous Air Pollutants
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US EPA Integrated Risk Information System (IRIS)
 US EPCRA Section 313 Chemical List
 US New York City Community Right-to-Know: List of Hazardous Substances
 US NIOSH Recommended Exposure Limits (RELs)
 US OSHA Permissible Exposure Limits (PELs) Table Z-1
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

acetone is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals
 US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Flammables
 US - New Jersey Right to Know Hazardous Substances
 US - Pennsylvania - Hazardous Substance List
 US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US Drug Enforcement Administration (DEA) List I and II Regulated Chemicals
 US EPA Integrated Risk Information System (IRIS)
 US EPA Pesticide Chemical Search - Antimicrobial
 US EPA Pesticide Chemical Search - Conventional Chemical
 US New York City Community Right-to-Know: List of Hazardous Substances
 US NIOSH Recommended Exposure Limits (RELs)
 US OSHA Permissible Exposure Limits (PELs) Table Z-1
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Section 4/12 (b) - Sunset Dates/Status

lindane is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
 International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
 Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination
 United Nations List of Prior Informed Consent Chemicals
 US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
 US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
 US - California Proposition 65 - Carcinogens
 US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
 US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
 US - Massachusetts - Right To Know Listed Chemicals
 US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
 US - New Jersey Right to Know Hazardous Substances

US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - List of Hazardous Substances
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US EPA Pesticide Chemical Search - Conventional Chemical
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 15th Report Part B. Reasonably Anticipated to be a Human Carcinogen
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US SARA Section 302 Extremely Hazardous Substances (40 CFR Part 355, Appendix A)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

chlorpyrifos is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US - California - Biomonitoring - Priority Chemicals
US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Reproductive Toxicity
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US CWA (Clean Water Act) - List of Hazardous Substances
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US EPA Pesticide Chemical Search - Antimicrobial
US EPA Pesticide Chemical Search - Conventional Chemical
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3

phorate is found on the following regulatory lists

United Nations List of Prior Informed Consent Chemicals
US - California - Biomonitoring - Priority Chemicals
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Pesticide Chemical Search - Antimicrobial
US EPA Pesticide Chemical Search - Conventional Chemical
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US SARA Section 302 Extremely Hazardous Substances (40 CFR Part 355, Appendix A)

azobenzene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPA Integrated Risk Information System (IRIS)
US EPA IRIS Carcinogens
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

atrazine is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Reproductive Toxicity
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know Hazardous Substances

Hexane with 50-150 ppm Pesticide Standard Mix

- US - Pennsylvania - Hazardous Substance List
- US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
- US EPA Integrated Risk Information System (IRIS)
- US EPA Pesticide Chemical Search - Conventional Chemical
- US EPCRA Section 313 Chemical List
- US New York City Community Right-to-Know: List of Hazardous Substances
- US NIOSH Recommended Exposure Limits (RELs)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

diazinon is found on the following regulatory lists

- Chemical Footprint Project - Chemicals of High Concern List
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans
- US - California - Biomonitoring - Priority Chemicals
- US - Massachusetts - Right To Know Listed Chemicals
- US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
- US - New Jersey Right to Know Hazardous Substances
- US - Pennsylvania - Hazardous Substance List
- US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
- US CWA (Clean Water Act) - List of Hazardous Substances
- US EPA Drinking Water Treatability Database
- US EPA Pesticide Chemical Search - Biopesticides
- US EPA Pesticide Chemical Search - Conventional Chemical
- US EPCRA Section 313 Chemical List
- US New York City Community Right-to-Know: List of Hazardous Substances
- US NIOSH Recommended Exposure Limits (RELs)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
n-hexane	5000	2270
acetone	5000	2270
lindane	1	0.454
chlorpyrifos	1	0.454
phorate	10	4.54

Hexane with 50-150 ppm Pesticide Standard Mix

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
diazinon	1	0.454

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS No	%[weight]	Name
110-54-3	97.415507	n-hexane
58-89-9	0.099404	lindane
1912-24-9	0.099404	atrazine
333-41-5	0.099404	diazinon

This information must be included in all SDSs that are copied and distributed for this material.

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

WARNING: This product can expose you to chemicals including **lindane, azobenzene**, which are known to the State of California to cause cancer, and **n-hexane, chlorpyrifos, atrazine**, which are known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	No (phorate)
Canada - NDSL	No (n-hexane; acetone; lindane; chlorpyrifos; phorate; azobenzene; atrazine; diazinon)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (phorate)
Korea - KECI	No (azobenzene)
New Zealand - NZIoC	No (lindane; phorate)
Philippines - PICCS	No (phorate)
USA - TSCA	TSCA Inventory 'Active' substance(s) (n-hexane; acetone; lindane; azobenzene; atrazine; diazinon); No (chlorpyrifos; phorate)
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	No (phorate; atrazine; diazinon)
UAE - Control List (Banned/Restricted Substances)	No (n-hexane; acetone; azobenzene)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	01/27/2025
Initial Date	01/27/2025

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC - TWA: Permissible Concentration-Time Weighted Average
- ▶ PC - STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit,
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index

Hexane with 50-150 ppm Pesticide Standard Mix

- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code

- ▶ AIIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European Inventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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