Gowan
The Go To Company

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 Reviewed on 06/02/2025

1 Identification

· **Product identifier**

· **Trade name: Sonalan HFP**

· **Article number:** US65923-69632
· **CAS Number:**
EPA Registration No.: 10163-356
Active Ingredient: Ethalfluralin (35.4%), CAS:55283-68-6
· **Application of the substance / the mixture** Herbicide

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Gowan Company, LLC.
P.O. Box 5569
Yuma, Arizona 85366-5569
(928) 783-8844

· **Information department:** sds@gowanco.com
· **Emergency telephone number:**
Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300
Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (ProPharma Group®): (888) 478-0798

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flammable Liquids 3	H226 Flammable liquid and vapor.

GHS08 Health hazard

Aspiration Hazard 1	H304 May be fatal if swallowed and enters airways.

GHS05 Corrosion

Eye Damage 1	H318 Causes serious eye damage.

GHS07

Acute Toxicity - Oral 4	H302 Harmful if swallowed.
Acute Toxicity - Dermal 4	H312 Harmful in contact with skin.
Acute Toxicity - Inhalation 4	H332 Harmful if inhaled.
Skin Irritation 2	H315 Causes skin irritation.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Aquatic Acute 2	H401 Toxic to aquatic life.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 Reviewed on 06/02/2025

Trade name: Sonalan HFP

(Contd. of page 1)

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Solvent naphtha (petroleum), light arom.
cyclohexanone
Ethalfluralin

· **Hazard statements**

H226	Flammable liquid and vapor.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.
H401	Toxic to aquatic life.

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - 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.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
P331	Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use CO2, powder or water spray to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 Reviewed on 06/02/2025

Trade name: Sonalan HFP

(Contd. of page 2)

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**
Corrosive • Causes Skin Burns And Irreversible Eye Damage • Harmful If Swallowed Or Inhaled • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable in US.

· **vPvB:** Not applicable in US.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 64742-95-6	Solvent naphtha (petroleum), light arom. Flammable Liquids 3, H226; Germ Cell Mutagenicity 1B, H340; Carcinogenicity 1B, H350; Aspiration Hazard 1, H304; Acute Toxicity - Inhalation 4, H332	44.45%
CAS: 55283-68-6	Ethalfluralin Carcinogenicity 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1B, H317	35.4%
CAS: 108-94-1	cyclohexanone Flammable Liquids 3, H226; Acute Toxicity - Dermal 3, H311; Acute Toxicity - Oral 4, H302; Acute Toxicity - Inhalation 4, H332	14.75%

4 First-aid measures

· **Description of first aid measures**

· **General information:**
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact 1-888-478-0798 for emergency medical treatment information.

· **After inhalation:**
• Move person to fresh air.
• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
• Call poison control center or doctor for further treatment advice.

· **After skin contact:**
• Take off contaminated clothing.
• Rinse skin immediately with plenty of water for 15-20 minutes.
• Call a poison control center or doctor for treatment advice.

· **After eye contact:**
• Hold eye open and rinse slowly and gently with water for 15-20 minutes.
• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
• Call a poison control center or doctor for treatment advice.

· **After swallowing:**
• Call a poison control center or doctor immediately for treatment advice.
• Have person sip a glass of water if able to swallow.
• Do not induce vomiting unless told to do so by a poison control center or doctor.
• Do not give anything by mouth to an unconscious person.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 3)

· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
Probable mucosal damage may contraindicate the use of gastric lavage.
· **Indication of any immediate medical attention and special treatment needed**
Skin contact may aggravate preexisting dermatitis. Repeated excessive exposure may aggravate preexisting lung disease. Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
Nitrogen oxides (NOx)
Hydrogen fluoride (HF)
Hydrogen chloride (HCl)
Carbon monoxide (CO)
Carbon dioxide (CO2)
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.
· **Additional information**
Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Vapor explosion hazard. Keep out of sewers. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Use appropriate safety equipment.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 4)

· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
CAS: 108-94-1	cyclohexanone	60 ppm

· **PAC-2:**		
CAS: 108-94-1	cyclohexanone	830 ppm

· **PAC-3:**		
CAS: 108-94-1	cyclohexanone	5000* ppm

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Corrosive • Causes Skin Burns And Irreversible Eye Damage • Harmful If Swallowed Or Inhaled • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Avoid freezing. Store above 40°F (5°C).
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 108-94-1 cyclohexanone	
PEL	Long-term value: 200 mg/m³, 50 ppm

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 *Reviewed on 06/02/2025*

Trade name: Sonalan HFP

(Contd. of page 5)

REL	Long-term value: 100 mg/m³, 25 ppm Skin
TLV	Short-term value: 200 mg/m³, 50 ppm Long-term value: 80 mg/m³, 20 ppm Skin, BEI, A3

· **Regulatory information**
PEL: Guide to Occupational Exposure Values (OSHA PELs)
REL: Guide to Occupational Exposure Values (NIOSH RELs)
TLV: Guide to Occupational Exposure Values (TLV)

· **Ingredients with biological limit values:**

CAS: 108-94-1 cyclohexanone

BEI	80 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 1.2-Cyclohexanediol (with hydrolysis, nonspecific, nonquantitative) 8 mg/L Medium: urine Time: end of shift Parameter: Cyclohexanol (with hydrolysis, nonspecific, nonquantitative)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from heat, sparks and flame. Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

· **Material of gloves** Chemical-resistant gloves.
· **Eye protection:**

Tightly sealed goggles

· **Body protection:**
- Coveralls worn over long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 6)

- *Chemical-resistant apron when cleaning equipment, mixing, or loading*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Liquid
· **Color:**	Orange
· **Odor:**	Aromatic
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	5
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	156 °C (312.8 °F)
· **Flash point:**	48 °C (118.4 °F)
· **Flammability:**	Flammable.
· **Auto igniting:**	420 °C (788 °F)
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Product is not self-igniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
· **Lower:**	1.5 Vol %
· **Upper:**	8.5 Vol %
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	1.02 g/cm³ (8.5119 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Dispersible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 7)

· **Conditions to avoid**
Avoid temperatures above 70 °C
Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:**
Hydrogen chloride (HCl)
Hydrogen fluoride (HF)
Nitrogen oxides (NOx)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	>4,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:**
Brief contact may cause moderate skin irritation with local redness.
Prolonged contact may cause skin irritation, even a burn.
May cause drying and flaking of the skin.
· **on the eye:**
May cause severe eye irritation.
May cause moderate corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.
In humans, eye irritation resulted from brief (minutes) exposure to cyclohexanone vapor concentration of 50 ppm and above.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
CAS: 108-94-1	cyclohexanone	3

· NTP (National Toxicology Program)
None of the ingredients are listed.

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

12 Ecological information

· **Toxicity**
This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Runoff or erosion from treated areas may be hazardous to fish in neighboring areas.

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 *Reviewed on 06/02/2025*

Trade name: Sonalan HFP

(Contd. of page 8)

Ethalfluralin
Acute toxicity to fish
Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 0.054 - 0.102 mg/l, OECD Test Guideline 203 or Equivalent
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0.136 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, eastern oyster (Crassostrea virginica), flow-through test, 96 Hour, 0.100 - 0.172 mg/l, OECD Test Guideline 202 or Equivalent
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 0.365 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 7 d, Growth rate inhibition, 0.004 - 0.0091 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to fish
NOEC, Oncorhynchus mykiss (rainbow trout), 50 d, 0.0004 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, 0.0237 mg/l

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
oral LD50, Colinus virginianus (Bobwhite quail), 14 d, > 2000mg/kg bodyweight.
dietary LC50, Colinus virginianus (Bobwhite quail), > 5000mg/kg diet.
oral LD50, Apis mellifera (bees), > 109.9micrograms/bee
contact LD50, Apis mellifera (bees), 46 - 100micrograms/bee

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, > 1,000 mg/kg

Cyclohexanone
Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, 630 mg/l
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 527 - 732 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 24 Hour, 820 mg/l

Acute toxicity to algae/aquatic plants
LOEC, Scenedesmus quadricauda (Green algae), 192 Hour, 370 mg/l, Method Not Specified.

Toxicity to bacteria
EC50, activated sludge, > 1,000 mg/l, OECD 209 Test

Solvent naphtha (petroleum), light aromatic.
Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 9)

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 9.22 mg/l, OECD Test Guideline 203 or Equivalent

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 6500mg/kg diet.
oral LD50, Colinus virginianus (Bobwhite quail), 21 d, > 2150mg/kg bodyweight.

· ***Aquatic toxicity:*** *No further relevant information available.*
· ***Persistence and degradability***
Ethalfluralin
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 2 - 15 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Stability in Water (1/2-life)
Hydrolysis, pH 3, Stable
Hydrolysis, pH 6, Stable
Hydrolysis, pH 9, Stable

Photodegradation
Atmospheric half-life: 1.8 Hour
Method: Estimated.

Cyclohexanone
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 87 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 2.61 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 10.6 Hour
Method: Estimated.
· ***Behavior in environmental systems:***
· ***Bioaccumulative potential***
Ethalfluralin
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 5.11 Measured
Bioconcentration factor (BCF): 1,330 Fish. Measured

Cyclohexanone
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.81 Measured

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 10)

· **Mobility in soil**
Ethalfluralin
Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient(Koc): 4100 - 8400 Measured

Cyclohexanone
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 15 Estimated.

Solvent naphtha (petroleum), light aromatic.
For the major component(s):
Potential for mobility in soil is low (Koc between 500 and 2000).
· **Additional ecological information:**
· **General notes:** *Do not allow product to reach ground water, water course or sewage system.*
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*
· **Other adverse effects** *No further relevant information available.*

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

· **Uncleaned packagings:**
· **Recommendation:**
Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.
· **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	*UN1993*
· **UN proper shipping name**	
· **DOT**	*Flammable liquids, n.o.s. (Solvent naphtha (petroleum), light arom., Cyclohexanone)*

(Contd. on page 12)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 11)

· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., CYCLOHEXANONE)
· **IMDG** FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., CYCLOHEXANONE), MARINE POLLUTANT
· **IATA** FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., CYCLOHEXANONE)

· **Transport hazard class(es)**

· **DOT**

· **Class** 3 Flammable liquids
· **Label** 3

· **ADR, IMDG**

· **Class** 3 Flammable liquids
· **Label** 3

· **IATA**

· **Class** 3 Flammable liquids
· **Label** 3

· **Packing group**
· **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:** Product contains environmentally hazardous substances: Ethalfluralin
· **Marine pollutant:** Symbol (fish and tree)
· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids
· **Hazard identification number (Kemler code):** 30
· **EMS Number:** F-E,S-E
· **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable

· **Transport/Additional information:**

· **DOT**
· **Quantity limitations** On passenger aircraft/rail: 60 L
On cargo aircraft only: 220 L

(Contd. on page 13)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 Reviewed on 06/02/2025

Trade name: Sonalan HFP

(Contd. of page 12)

· **ADR**
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **IMDG**
· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** US DOT:
For Non-Bulk presentations:
UN 1993 FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROM., CYCLOHEXANONE), 3, III

For Bulk presentations:
UN 1993 FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROM., CYCLOHEXANONE), 3, III, MARINE POLLUTANT

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
EPA /FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.
· **Marketing authorization number:**
· **SARA Title III**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

(Contd. on page 14)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 13)

· **Carcinogenicity categories**

· EPA (Environmental Protection Agency)
None of the ingredients are listed.

· TLV (Threshold Limit Value)		
CAS: 108-94-1	cyclohexanone	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

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

· **Hazard pictograms**
Not applicable

· **Signal word**
(US EPA) DANGER/PELIGRO

· **Hazard-determining components of labeling:**
Solvent naphtha (petroleum), light arom.
cyclohexanone
Ethalfluralin

· **Hazard statements**

H226	Flammable liquid and vapor.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.
H401	Toxic to aquatic life.

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - 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.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
P331	Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

(Contd. on page 15)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Sonalan HFP

(Contd. of page 14)

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use CO2, powder or water spray to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment**

· **Categoria Seveso**

E1 E1 Hazardous to the Aquatic Environment

P5c Flammable liquids

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

16 Other information

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

· **NFPA ratings (Scale 0-4)**

Health = 3
Fire = 2
Reactivity = 0

· **Department issuing SDS:** Supply Chain

· **Contact:** sds@gowanco.com

· **Date of preparation / last revision** 06/02/2025 / 16.0

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 3: Flammable liquids – Category 3
Acute Toxicity - Dermal 3: Acute toxicity – Category 3
Acute Toxicity - Inhalation 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Sensitization - Skin 1: Skin sensitisation – Category 1
Sensitization - Skin 1B: Skin sensitisation – Category 1B
Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B

(Contd. on page 16)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/02/2025 *Reviewed on 06/02/2025*

Trade name: Sonalan HFP

(Contd. of page 15)

Carcinogenicity 1B: Carcinogenicity – Category 1B
Carcinogenicity 2: Carcinogenicity – Category 2
Aspiration Hazard 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· ***Sources*** *Sonalan® is a registered trademark of Gowan Company LLC.*