

GOAL® 2XL Herbicide

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GOAL® 2XL Herbicide
 Product Code: 74743
 Key: 869072-1

MSDS Date: 07/22/98

COMPANY IDENTIFICATION

ROHM AND HAAS COMPANY
 100 INDEPENDENCE MALL WEST
 PHILADELPHIA, PA 19106-2399

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY: 215-592-3000

SPILL EMERGENCY: 215-592-3000

CHEMTREC: 800-424-9300

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2. COMPOSITION/INFORMATION ON INGREDIENTS

No	CAS REG NO	WEIGHT (%)
1	Oxyfluorfen 42874-03-3	21-23
2	Solvent naphtha, petroleum, heavy arom. 64742-94-5	44-45
3	N-Methyl pyrrolidone 872-50-4	9-10
4	Naphthalene 91-20-3	6-8
5	Calcium dodecylbenzene sulfonate 26264-06-2	1-2
6	Proprietary nonionic surfactants Undisclosed	13-15
7	Related reaction products None	

See Section 8, Exposure Controls / Personal Protection

3. HAZARDS IDENTIFICATION

Primary Routes of Exposure

Inhalation

Dermal Absorption

Skin Contact

Eye Contact

Inhalation

Inhalation of solvent vapor or mist can cause the following:

- irritation of nose, throat, and lungs - headache - nausea - dizziness - drowsiness - loss of coordination - stupor - unconsciousness

Eye Contact

Direct contact with material can cause the following:

- substantial irritation

Skin Contact

Component 3 may be absorbed through intact skin. Material can cause the following:

- severe skin irritation

Prolonged or repeated skin contact can cause the following:

- defatting and drying of the skin which can lead to irritation and dermatitis - skin sensitization in susceptible individuals

Delayed Effects

Repeated overexposure to the active ingredient in this material can cause the following:

- liver damage

Prolonged or repeated overexposure to naphtha can cause the following:

- liver damage - kidney damage

Prolonged or repeated overexposure to component 3 can cause the following:

- possible adverse reproductive effects

4. FIRST AID MEASURES

Inhalation

Move subject to fresh air. If breathing is difficult, give oxygen. Give artificial respiration if breathing has stopped. Get prompt medical attention.

Eye Contact

Flush eyes with a large amount of water for at least 15 minutes. See a physician.

Skin Contact

IMMEDIATELY get under a safety shower. Wash affected skin areas thoroughly with soap and water. Remove and wash contaminated clothing thoroughly. Do not take clothing home to be laundered. Get prompt medical attention.

Ingestion

If swallowed, give 2 glasses of water to drink. Never give anything by mouth to an unconscious person. IMMEDIATELY see a physician. DO NOT induce vomiting, petroleum distillate present. Careful gastric lavage may be indicated.

Note to Physician

In acute cases of naphtha overexposure or ingestion, patients should be evaluated for signs of respiratory distress.

5. FIRE FIGHTING MEASURES

Flash Point 99°C/210°F Setaflash Closed Cup Auto-ignition Temperature

. 346°C/655°F N-Methyl-2-pyrrolidone

Lower Explosive Limit

. 1.3% n-Methyl pyrrolidinone

Upper Explosive Limit 11.8% Solvent, naphtha

Unusual Hazards

Pesticide particulates can become airborne.

Combustion generates toxic fumes of the following:

- hydrogen chloride - hydrogen fluoride - nitrogen oxides

Extinguishing Agents

Use the following extinguishing media when fighting fires involving this material:

- carbon dioxide - dry chemical - water spray - polar solvent (alcohol) foam

Personal Protective Equipment

Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent) and full protective gear.

Special Procedures

Contain run-off. Remain upwind. Avoid breathing smoke. Use water spray to cool containers exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow. Remove all contaminated clothing promptly. Wash all exposed skin areas with soap and water immediately after exposure. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

Procedures

Eliminate all ignition sources. Ventilate the spill area. Avoid breathing vapor. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. See the REGULATORY INFORMATION Section for reporting requirements.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

NOTE: Spills on porous surfaces can contaminate groundwater.

7. HANDLING AND STORAGE

Storage Conditions

The minimum recommended storage temperature for this material is 0C/32F.

Do not store this material near food, feed or drinking water. Store away from excessive heat (e.g. steam pipes, radiators), from sources of ignition and from reactive materials. Avoid all ignition sources. Ground all metal containers during storage and handling.

Handling Procedures

Do not handle material near food, feed or drinking water. Ground all containers when transferring material. This material is a severe irritant. See SECTION 8, Exposure Controls/Personal Protection, prior to handling.

Other

CONTAINERS HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue (vapors and/or liquid) follow all MSDS and label warnings even after container is emptied. Residual vapors in empty containers may explode on ignition. DO NOT cut, drill,

grind or weld on or near container. Triple rinse (or equivalent) and puncture empty container. Dispose empty container in a sanitary landfill or by incineration as allowed by state and local authorities. Avoid inhalation of smoke if incinerated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit Information

No	CAS REG NO	WEIGHT (%)
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Comp. No.	Units	ROHM AND HAAS		OSHA		ACGIH	
		TWA	STEL	TWA	STEL	TWA	STEL
1	mg/m3	0.2	1.6	None	None	None	None
2		None	None	None	None	None	None
3	ppm Skin	25	75	None	None	None	None
4	ppm	10	15	10	15	10	15
5		None	None	None	None	None	None
6		None	None	None	None	None	None
7		None	None	None	None	None	None

Respiratory Protection

A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit in 'Exposure Limit Information'.

Up to 10 times the TWA/TLV: Wear a MSHA/NIOSH approved (or equivalent) half-mask, air-purifying respirator.

Up to 1000 ppm organic vapor: Wear a MSHA/NIOSH approved (or equivalent) full-facepiece, air-purifying respirator.

Above 1000 ppm organic vapor or Unknown: Wear a MSHA/NIOSH approved (or equivalent) self-contained breathing apparatus in the positive pressure mode, OR,

MSHA/NIOSH approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Air-purifying respirators should be equipped with MSHA/NIOSH approved (or equivalent) cartridges for protection against pesticides.

Eye Protection

Use chemical splash goggles (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Hand Protection

Chemical-resistant gloves should be worn whenever this material is handled.

Glove permeation data does not exist for this material. The following glove(s) should be used for splash protection only:

- Nitrile

Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other Protection

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Engineering Controls (Ventilation)

Use explosion proof local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.)

at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Other Protective Equipment

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Opaque
 Color Dark colored
 State Liquid
 Odor Characteristic Aromatic odor
 pH 7.3 Aqueous solution
 Viscosity 11.5 CPS
 Specific Gravity (Water = 1) 1.12
 Vapor Density (Air = 1) 5.2 Solvent, naphtha
 Vapor Pressure
 0.29 mm Hg @ 20°C/68°F
 N-Methyl-2-Pyrrolidone
 Melting Point -24.4°C/-11.9°F
 N-Methyl-2-Pyrrolidone
 Boiling Point
 201.7°C/395.1°F N-Methyl-2-Pyrrolidone
 Solubility in Water Emulsifiable
 Percent Volatility 62 to 64 % Approximate
 Evaporation Rate (BAc = 1)
 0.06 N-Methyl-2-Pyrrolidone
 See section 5, Fire Fighting Measures

10. STABILITY AND REACTIVITY

Instability

This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces).

Hazardous Decomposition Products

Thermal decomposition may yield the following:

- hydrogen chloride - hydrogen fluoride

Hazardous Polymerization

Product will not undergo polymerization.

Incompatibility

Avoid contact with the following:

- acids - bases - amines - oxidizing agents - halogens
 - molten sulfur

11. TOXICOLOGICAL INFORMATION

Acute Data

Oral LD50 - rat: >2000 mg/kg

Dermal LD50 - rat: >2999 mg/kg

Eye Irritation - rabbit: substantial irritation

Skin Irritation - rabbit: severe irritation

Inhalation LC50 - rat: >4.8 mg/L for 4 hr.

Subchronic/Chronic Data

The following data pertains to studies conducted with the technical material, 70-75% active ingredient: Liver necrosis was observed in mice at 20 ppm and above; the overall NOEL was 2 ppm (0.3 mg/kg) in mice.

Carcinogenicity Data

The following data pertains to studies conducted with the technical material, 70-75% active ingredient: No evidence of carcinogenicity was observed in long-term studies with rats. A slightly higher incidence (not statistically significant) of liver tumors was seen in male mice at 200 ppm but not at 20 or 2 ppm, and not in female mice at any of these doses.

Mutagenicity Data

The following data pertains to studies conducted with the technical material, 70-75% active ingredient:

Ames mutagenicity: Positive

Mouse Lymphoma Point Mutation: Positive

In vitro rat hepatocyte Unscheduled DNA Synthesis: Negative

In vivo cytogenetic assay (rat): Negative

In vivo chromosome aberration assay (mouse bone marrow cells): Negative

Reproductive/Teratology Data

The following data pertains to studies conducted with the technical material, 70-75% active ingredient: No evidence of teratogenicity was observed in studies with rabbits. GOAL® Technical was not teratogenic or embryo-fetotoxic in rats at doses that were not maternally toxic (15 mg/kg), however at maternally toxic doses (150 mg/kg) embryo-fetotoxicity and

skeletal malformations were evident. No effects on reproductive performance in rats was evident at doses up to and including 400 ppm.

Sensitization Data

Skin sensitization - guinea pig: Allergic response observed.

12. ECOLOGICAL INFORMATION

Environmental Toxicity

Honeybee, 96 Hour LC50: >10000 ppm

Freshwater clam, 96 Hour LC50: >9.6 mg/l

Fiddler crab (*Uca pugnator*), 96 Hour LC50: >1000 mg/l

Eastern oyster, 96 Hour EC50: 69 ug/l

Grass shrimp, 96 Hour LC50: 32 ug/l

Channel catfish (*Ictalurus punctatus*), 96 Hour LC50: 0.4 mg/l

Rainbow trout (*Salmo gairdneri*), 96 Hour LC50: 0.41 mg/l

Bluegill sunfish (*Lepomis macrochirus*), 96 Hour LC50: 0.2 mg/l

Mallard duck, 8 Day Oral LC50: >5000 mg/kg

Bobwhite quail, 8 Day Oral LC50: >5000 mg/kg

Bobwhite quail, Acute oral LD50: >2150 mg/kg

The above Environmental Toxicity data are from studies conducted on the technical material, 70-75% active ingredient.

13. DISPOSAL CONSIDERATIONS

Procedure

Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

US DOT Hazard Class NONREGULATED

This classification is used when shipping in non-bulk packages for domestic surface transportation only. Exceptions in CFR 49 Parts 171-177 may apply. Consult CFR 49 Parts 171-177 to determine appropriate classification when shipping in bulk packages or when shipping by air or ocean.

15. REGULATORY INFORMATION

Workplace Classification

This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200). This product is subject to regulation under the Canadian Pest Control Products Act (P.C.P. Act). Therefore, this product is excluded from the supplier labeling and material safety data sheet requirements as specified in Section 12 of the Hazardous Products Act.

SARA TITLE 3: Section 311/312 Categorizations (40CFR 370)

This product is a hazardous chemical under 29CFR 1910.1200, and is categorized as an immediate and delayed health hazard.

SARA TITLE 3: Section 313 Information (40CFR 372)

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS.)

- Oxyfluorfen (42874-03-3)

- N-Methyl-2-pyrrolidone (872-50-4)

- Naphthalene (91-20-3)

CERCLA Information (40CFR 302.4)

This material is regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304. This material is or contains chemical(s) listed in 40 CFR Table 302.4 or nondesignated RCRA ICR substance(s). (Nondesignated ICR substances apply to materials that will not be reused.) The Reportable Quantity(s) (RQ) are listed below. Releases in excess of its reportable quantity must be reported to National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations. Calcium dodecylbenzene sulfonate (26264-06-2) 1000lbs. Naphthalene (91-20-3) 100lbs.

Waste Classification

When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR 261.33. The toxicity characteristic

(TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

United States

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substances Control Act (TSCA) Inventory listing requirements.

OTHER INFORMATION

Rohm and Haas Hazard Rating	Scale
Toxicity 3	4=EXTREME
Fire 1	3=HIGH
Reactivity 0	2=MODERATE
Special -	1=SLIGHT
	0=INSIGNIFICANT

Ratings are based on Rohm and Haas guidelines, and are intended for internal use.

ABBREVIATIONS:

ACGIH = American Conference of Governmental Industrial Hygienists

OSHA = Occupational Safety and Health Administration

TLV = Threshold Limit Value

PEL = Permissible Exposure Limit

TWA = Time Weighted Average

STEL = Short-Term Exposure Limit

BAc = Butyl acetate

Bar denotes a revision from previous MSDS in this area.

The information contained herein relates only to the specific material identified. Rohm and Haas Company believes that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability, or completeness of the information. Rohm and Haas Company urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

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