

SAFETY DATA SHEET



NAVIGATE®

SECTION 1. IDENTIFICATION

Product name : NAVIGATE®

EPA Registration No. 228-378-67690

Relevant identified uses of the substance or mixture: Herbicide

Manufacturer or supplier's details

Company : SePRO Corporation
11550 North Meridian Street, Suite 600
Carmel IN 46032

Telephone : 317-580-8282 / Toll Free 1-800-419-7779
Fax: 317-580-8290
Monday-Friday, 8am-5pm EST
Email: www.sepro.com

Emergency telephone number : INFOTRAC 24 hour service 1-800-535-5053

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation : Category 2A

Carcinogenicity : Sub-category 1A

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H319 Causes serious eye irritation.
H350 May cause cancer.
H317 May cause an allergic skin reaction.



Precautionary statements

- Prevention:**
 - P264 Wash skin thoroughly after handling.
 - P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
 - P280 Wear protective gloves/ eye protection/ face protection.
 - P261 Avoid breathing dust.
 - P272 Contaminated work clothing should not be allowed out of the workplace.
- Response:**
 - P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P337 + P313 If eye irritation persists: Get medical advice/ attention.
 - P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 - P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 - P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 - P363 Wash contaminated clothing before reuse.
- Storage:**
 - P405 Store locked up.
- Disposal:**
 - P501 Dispose of contents/container in accordance with local regulation.

Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 1.9999 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	25 - 30
Silicon dioxide	14808-60-7	0 - 4
Cristobalite	14464-46-1	0 - 1

SECTION 4. FIRST AID MEASURES

- If inhaled : IF INHALED: 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 a poison control center or doctor for further treatment advice.
- In case of skin contact : IF ON SKIN OR CLOTHING: 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.
- In case of eye contact : IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present,



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after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

- If swallowed : IF SWALLOWED: 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.
- Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use dry chemical, water fog, carbon dioxide (CO₂), or foam.
- Specific hazards during firefighting : Material will not ignite or burn.
- Further information : In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water to cool containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus. Possible need to alert the neighbourhood. Evacuate personnel to safe areas. Use personal protective equipment as required.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid inhalation of dust and fumes.
- Conditions for safe storage : Store in a cool, dry and well ventilated place. Isolate from incompatible materials.
- Materials to avoid : Refer to Section 10, "Incompatible Materials."

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Silicon dioxide	14808-60-7	(Respirable fraction.)		ACGIH
		TWA (Respirable fraction.)	0.025 mg/m ³	ACGIH
		REL (Respirable dust.)	0.05 mg/m ³	NIOSH/GUIDE
Cristobalite	14464-46-1	(Respirable fraction.)		ACGIH
		TWA (Respirable fraction.)	0.025 mg/m ³	ACGIH
		REL (Fibrous dust.)	3 fibers/cm ³	NIOSH/GUIDE
		REL (Respirable dust.)	0.05 mg/m ³	NIOSH/GUIDE

Engineering measures : Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.
Wear a NIOSH approved N95 respirator.

Hand protection
Remarks : Wear impervious gloves to avoid skin contact.

Eye protection : Use chemical goggles.

Skin and body protection : Impervious clothing

Protective measures : Emergency eyewash should be provided in the immediate work area.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granular

Colour : no data available



Odour	: no data available
Odour Threshold	: no data available
pH	: 3.3 - 3.5
Melting point/freezing point	: Not applicable
Boiling point/boiling range	: Not applicable
Flash point	: no data available
Evaporation rate	: no data available
Flammability (solid, gas)	: Product is not known to be flammable, combustible, pyrophoric or explosive.
Flammability (liquids)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: Not applicable
Relative density	: no data available
Density	: no data available
Bulk density	: no data available
Water solubility	: insoluble
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Decomposition temperature	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	: Stable under normal conditions.
Conditions to avoid	: Heat
Incompatible materials	: Strong oxidizing agents Acids and bases



Hazardous decomposition products : Carbon oxides
Sulphur oxides
Hydrogen chloride

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Skin
Eyes
Ingestion

Acute toxicity

Acute oral toxicity : LD50 (Rat): Believed to be approximately 3,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): Believed to be > 2,000 mg/kg

Acute toxicity (other routes of administration) : Remarks: Contact with eyes or skin causes irritation.

Skin corrosion/irritation Remarks: May cause mild skin irritation.

Serious eye damage/eye irritation

Result: Eye irritation Assessment: irritating

Respiratory or skin sensitization Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

IARC	Group 1: Carcinogenic to humans	
	tridymite	15468-32-3
	Cristobalite	14464-46-1
OSHA	Silicon dioxide	14808-60-7
	Cancer hazard.	
	tridymite	15468-32-3
NTP	Cristobalite	14464-46-1
	Silicon dioxide	14808-60-7
	Known to be human carcinogen	
ACGIH	tridymite	15468-32-3
	Cristobalite	14464-46-1
	Silicon dioxide	14808-60-7
ACGIH	Suspected human carcinogen	
	Cristobalite	14464-46-1
	Silicon dioxide	14808-60-7

Repeated dose toxicity

Remarks: Not known or reported to cause subchronic or chronic toxicity.

Further information Remarks: no data available



SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish : LC50: Believed to be approximately 1.6 mg/l
Method: Calculation method

Persistence and degradability no data available

Bioaccumulative potential

Components:

Silicon dioxide:

Partition coefficient: n-octanol/water : Remarks: no data available

Mobility in soil no data available

Other adverse effects

Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Moderately toxic to fish and other aquatic organisms. Highly / very toxic to plants.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If this product becomes a waste, it will be a nonhazardous waste.
As a nonhazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable



TDG : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

IATA : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

IMDG : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

ADR : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

RID : Not dangerous goods

UN number : Not applicable
Proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable
Special precautions for user : none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency 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 (SDS), and for workplace labels of non-pesticide chemicals.

EPA Registration number : 228-378-67690
Signal word : CAUTION!
Hazard statements : Causes moderate eye irritation.

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity



NAVIGATE®

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	100	362

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

Components	CAS-No.	Concentration
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	25 - 30 %

Clean Air Act

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

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Components	CAS-No.	Concentration
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	25 - 30 %

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

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

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

Components	CAS-No.	Component RQ (lbs)
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	100

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

Components	CAS-No.	Concentration
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3	25 - 30 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3
Silicon dioxide	14808-60-7
Cristobalite	14464-46-1



tridymite	15468-32-3
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Pennsylvania Right To Know

Components	CAS-No.
Bentonite	1302-78-9
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3
Silicon dioxide	14808-60-7

New Jersey Right To Know

Components	CAS-No.
Bentonite	1302-78-9
2-Butoxyethyl 2,4-dichlorophenoxyacetate	1929-73-3
Silicon dioxide	14808-60-7
Lignosulfonic acid, calcium salt	8061-52-7
Water	7732-18-5

California Prop. 65

WARNING Cancer - www.P65Warnings.ca.gov.

Components	CAS-No.
tridymite	15468-32-3
Cristobalite	14464-46-1
Silicon dioxide	14808-60-7

Canadian lists**NPRI**

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

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

TSCA : This is an EPA registered pesticide.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

ACGIH : US. ACGIH Threshold Limit Values
NIOSH/GUIDE : US. NIOSH: Pocket Guide to Chemical Hazards, as amended
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of



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a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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