

## SAFETY DATA SHEET

according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

### AB Navigate

Version 1.0

Revision Date 2018.11.29

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#### SECTION 1. IDENTIFICATION

Product name : AB Navigate

##### Manufacturer or supplier's details

Company : Arch Chemicals, Inc.  
1200 Bluegrass Lakes Parkway  
Alpharetta, GA  
30004  
United States of America (USA)

E-mail address : sds@lonza.com  
Emergency telephone number : In case of emergency call CHEMTREC US: 1-800-424-9300,  
CHEMTREC WORLD-WIDE: +1-703-527-3887.

##### 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.

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### 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

- General advice : Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- 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, 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

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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 (CO<sub>2</sub>), 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	Control parameters / Permissi-	Basis

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		exposure)	ble concentra- tion	
Silicon dioxide	14808-60-7	(Respirable fraction.)		ACGIH
		TWA (Respirable fraction.)	0.025 mg/m3	ACGIH
		REL (Respirable dust.)	0.05 mg/m3	NIOSH/GUIDE
		TWA (Respirable dust.)	0.1 mg/m3	Z1A
		TWA (Respirable.)	2.4 millions of particles per cubic foot of air	Z3
		TWA (Respirable.)	0.1 mg/m3	Z3
		TWA	0.05 mg/m3 (Respirable dust.)	OSHASP
		OSHA_ACT	0.025 mg/m3 (Respirable dust.)	OSHASP
		PEL (Respirable dust.)	0.05 mg/m3	OSHA_TRANS
Cristobalite	14464-46-1	(Respirable fraction.)		ACGIH
		TWA (Respirable fraction.)	0.025 mg/m3	ACGIH
		TWA (Respirable dust.)	0.05 mg/m3	Z1A
		TWA (Respirable.)	1.2 millions of particles per cubic foot of air	Z3
		TWA (Respirable.)	0.05 mg/m3	Z3
		TWA	0.05 mg/m3 (Respirable dust.)	OSHASP
		OSHA_ACT	0.025 mg/m3 (Respirable dust.)	OSHASP
		PEL (Respirable dust.)	0.05 mg/m3	OSHA_TRANS
		REL (Fibrous dust.)	3 fibers/cm3	NIOSH/GUIDE
		REL (Respirable dust.)	0.05 mg/m3	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.

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	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.

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### 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

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Decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available

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### 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

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### SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Skin Eyes Ingestion
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#### 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 sensitisation

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
Silicon dioxide	14808-60-7

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<b>OSHA</b>	Cancer hazard. tridymite Cristobalite Silicon dioxide	15468-32-3 14464-46-1 14808-60-7
<b>NTP</b>	Known to be human carcinogen tridymite Cristobalite Silicon dioxide	15468-32-3 14464-46-1 14808-60-7
<b>ACGIH</b>	Suspected human carcinogen Cristobalite Silicon dioxide	14464-46-1 14808-60-7

### Repeated dose toxicity

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

### Further information

Remarks: no data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Toxicity to fish : LC50: Believed to be approximately 1.6 mg/l  
Remarks: (calculated)

### 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.

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## SECTION 13. DISPOSAL CONSIDERATIONS

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### 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.

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## 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



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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	:	228-378-8959
Signal word	:	CAUTION!
Hazard statements	:	Causes moderate eye irritation.

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

##### CERCLA Reportable Quantity

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 12 (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).

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMCI 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

#### 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](http://www.P65Warnings.ca.gov).

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

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### 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
OSHA_TRANS	:	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
OSHASp	:	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Z1A	:	US. OSHA Table Z-1-A (29 CFR 1910.1000)
Z3	:	US. OSHA Table Z-3 (29 CFR 1910.1000)

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 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

Arch is a wholly-owned subsidiary of Lonza and continues to operate as Arch Chemicals, Inc.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format : yyyy/mm/dd

US / EN