



ALPHA SOLVE (SODIUM HYDROXIDE)

Alpha Resources LLC

Safety Data Sheet
Issue Date: 07/20/2021

SECTION 1 Identification

Product Identifier

Product Name	ALPHA SOLVE
Chemical Name	Not Applicable
Part Numbers	AR169, AR2174, AR2176
Chemical Formula	Not Applicable
CAS Number	1310-73-2

Company Information

Registered Company Name	Alpha Resources LLC
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Emergency Phone Number

Association / Organization	CHEMTREC
Emergency Telephone No.	(800) 424-9300

SECTION 2 Hazard(s) Identification

Classification of the Substance or Mixture

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, White = Special (Oxidizer or water reactive substances)

Classification	Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1
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Label Elements

Hazard Pictogram(s)	A red diamond-shaped pictogram with a black border, showing a liquid dripping from two test tubes onto a hand and a surface, representing a corrosion hazard.
Signal Word	Danger

Hazard Statement(s)

H314	Causes severe skin burns and eye damage
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Hazard(s) not Otherwise Classified

Not applicable



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Precautionary Statement(s) Prevention

P260	Do not breathe dust/fume
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth, do NOT induce vomiting
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing, rinse skin with water/shower
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, continue rinsing
P310	Immediately call a POISON CENTER or doctor/physician
P363	Wash contaminated clothing before reuse
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary Statement(s) Storage

P405	Store locked up
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Precautionary Statement(s) Disposal

P501	Dispose of contents/container to authorized hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / Information on Ingredients

Substances

CAS No	%[weight]	Name
1310-73-2	>90	Sodium hydroxide
1318-00-9	5-10	Vermiculite

SECTION 4 First-Aid Measures

Description of First Aid Measures

Eye Contact	If this product comes in contact with the eyes: ➤ Immediately hold eyelids apart and flush the eye continuously with 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. ➤ Continue flushing until advised to stop by the Poison Center or a doctor, or for at least 15 minutes. ➤ Transport to hospital or doctor without delay.
Skin Contact	If skin contact occurs: ➤ Immediately flush body and clothes with large amounts of water, using safety shower if available. ➤ Quickly remove all contaminated clothing, including footwear. ➤ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poison Center. ➤ Transport to hospital, or doctor.
Inhalation	➤ 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.

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	➤ 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.
Ingestion	➤ For advice, contact a Poison Center or a doctor at once. ➤ Urgent hospital treatment is likely to be needed. ➤ 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. ➤ Give water to rinse out mouth, then provide liquid slowly and as much as patient can comfortably drink. ➤ Transport to hospital or doctor without delay.

Most important symptoms and effects, both acute and delayed

See Section 11

SECTION 5 Fire-Fighting Measures

Extinguishing Media

- Water spray or fog, foam, dry chemical powder, carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	➤ Alert fire department 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. ➤ Cool fire exposed containers with water spray from a protected location. ➤ Equipment should be thoroughly decontaminated after use.
Fire / Explosion Hazard	➤ Not combustible. ➤ Not considered a significant fire risk, however, containers may burn. ➤ May emit corrosive fumes.

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	➤ Clean up all spills immediately. ➤ Avoid contact with skin and eyes. ➤ Control personal contact with the substance by using protective equipment. ➤ Use dry clean up procedures and avoid generating dust. ➤ Place in a suitable, labelled container for waste disposal. ➤ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
Major Spills	➤ Environmental hazard – contain spillage. ➤ Clear area of personnel and move upwind. ➤ May be violently or explosively reactive. ➤ Wear full body protective clothing with breathing apparatus.

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- Prevent, by any means available, spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- Stop leak if safe to do so.
- Contain spill with sand, earth, or vermiculite.
- NEVER USE organic absorbents such as sawdust, paper, or cloth.
- Collect recoverable product into labelled containers for recycling.
- Neutralize/decontaminate residue.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area with water and prevent runoff into drains.
- Decontaminate equipment and launder protective clothing before storage and reuse.

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

SECTION 7 Handling and Storage

Precautions for safe handling

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| Safe Handling | <ul style="list-style-type: none"> ➤ Avoid all personal contact and inhalation of dust. ➤ Use in a well-ventilated area. ➤ Wear protective clothing when risk of exposure occurs. ➤ WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. ➤ Keep cool, dry, and away from incompatible materials. ➤ Avoid physical damage to containers. ➤ When handling, NEVER eat, drink, or smoke. ➤ Keep containers securely sealed when not in use. ➤ Always wash hands with soap and water after handling. |
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Conditions for safe storage, including any incompatibilities

Suitable Container	❖ Glass container is suitable for laboratory quantities. ❖ Lined metal can, plastic pail, polyliner drum. ❖ Packaging as recommended by manufacturer.
Storage Incompatibility	❖ Reacts with water evolving heat and corrosive fumes. ❖ Reacts violently with acids, organic halogen compounds, amphoteric metals such as aluminum, zinc, tin, and lead. ❖ Reacts with fluorine, nitroalkanes, forming explosive compounds.

SECTION 8 Exposure Controls / Personal Protection

Control parameters

❖ Occupational Exposure Limits (OEL)

❖ INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	Sodium hydroxide	Sodium hydroxide	Not Available	Not Available	2 mg/m3	Not Available
US OSHA Permissible Exposure Levels (PELs) – Table Z1	Sodium hydroxide	Sodium hydroxide	2 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Sodium hydroxide	Sodium hydroxide	Not Available	Not Available	2 mg/m3	Not Available

❖ Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Sodium hydroxide	Not Available	Not Available	Not Available
Vermiculite	32 mg/m3	360 mg/m3	2,200 mg/m3

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Ingredient	Original IDLH	Revised IDLH
Sodium hydroxide	10 mg/m ³	Not Available
Vermiculite	Not Available	Not Available

Exposure Controls

Engineering Controls	➤ Exhaust ventilation should be designed to prevent accumulation and recirculation in the workplace and safely remove dust from the air. ➤ Provide eye wash stations and a water source or safety shower. ➤ Provide secure, lockable, dry area for storage.
Eye and Face Protection	➤ Safety glasses with side shields. ➤ Chemical goggles. ➤ Eye wash unit.
Skin and Body Protection	➤ Protective over-garments for extended periods of exposure.
Hand Protection	➤ 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 moisturizer is recommended. ➤ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. ➤ Wear chemical protective gloves, e.g. nitrile, neoprene. ➤ Gloves should be examined for wear and/or degradation constantly.
Respiratory Protection	➤ Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

SECTION 9 Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Tan, light brown granular solid
Physical State	Solid
Odor	Odorless
pH	14
Melting Point / Freezing Point (°C)	318
Boiling Point (°C)	1390
Relative Density (Water = 1)	2.1
Solubility in Water	Very soluble

SECTION 10 Stability and Reactivity

Reactivity	See section 7
Chemical Stability	➤ Product is considered stable when handled and stored properly. ➤ Product will absorb moisture and react with atmospheric carbon dioxide. ➤ Hazardous polymerization 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

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SECTION 11 Toxicological Information

Information on toxicological effects

Sodium hydroxide is capable of causing severe destruction of tissue by all routes of exposure. The extent of tissue damage depends on the amount of chemical and duration of exposure.

Inhaled	Severe cases may result in damage to mucous membranes, upper respiratory tract, and lungs.
Ingestion	Severe cases may result in chemical burns to mouth, throat, esophagus, and gastrointestinal tract.
Skin Contact	Severe corrosion of the skin is possible. Chemical burns and ulceration may result.
Eye	Contact with eyes may result in irreversible damage, including blindness.
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Not known to be a carcinogen.

Magnesium perchlorate	Toxicity – Oral (Rabbit) LD50; 325 mg/kg Toxicity – Dermal (Rabbit) LD50; 1350 mg/kg Irritation – Eye (Rabbit): 0.05 mg/24h SEVERE Irritation – Eye (Rabbit): 1 mg/24h SEVERE Irritation – Eye (Rabbit): 1 mg/30s rinsed – SEVERE Irritation – Eye: adverse effect observed (irritating) Irritation – Skin (Rabbit): 500 mg/24h SEVERE Irritation – Skin: adverse effect observed (corrosive)
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Acute Toxicity	X	Carcinogenicity	X
Skin Irritation/Corrosion	✓	Reproductivity	X
Serious Eye Damage/Irritation	✓	STOT – Single Exposure	X
Respiratory or Skin Sensitization	X	STOT – Repeated Exposure	X
Mutagenicity	X	Aspiration Hazard	X

Legend: X – Data either not available or does not fill the criteria for classification

✓ - Data available to make classification.

SECTION 12 Ecological Information

Toxicity

Endpoint	Test Duration (hr)	Species	Value
LC50	24	Carassius auratus (Goldfish)	160 mg/L
LC50	48	Gambusia affinis (Mosquito fish)	189 mg/L
LC50	48	Ceriodaphnia cf Dubia (Water flea)	40 mg/L

DO NOT discharge into sewer or waterways

Persistence and Degradability – LOW

Bioaccumulative Potential – LOW (LogKOW = -3.8796)

Mobility in Soil – LOW (KOC = 14.3)

SECTION 13 Disposal Considerations

Waste Treatment Methods

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Product / Packaging Disposal	➤ 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. ➤ This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. ➤ 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.
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SECTION 14 Transport Information

Labels Required

	
Marine Pollutant	NO

Land transport (DOT):

UN Number	1823
UN proper shipping name	Sodium hydroxide, solid
Transport hazard class(es)	8
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Hazard Label – 8 Special Provisions – IB8, IP2, IP4, T3, TP33

Air transport (ICAO-IATA / DGR)

UN Number	1823
UN proper shipping name	Sodium hydroxide, solid
Transport hazard class(es)	8 ERG Code 8L
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special Provisions – Not Applicable Cargo Only Packing Instructions – 863 Cargo Only Maximum Qty / Pack – 50 kg Passenger and Cargo Packing Instructions – 859 Passenger and Cargo Maximum Qty / Pack – 15 kg Passenger and Cargo Limited Quantity Packing Instructions – Y844 Passenger and Cargo Limited Maximum Qty / Pack – 5 kg

Sea transport (IMDG-Code / GGVSee)

UN Number	1823
UN proper shipping name	SODIUM HYDROXIDE, SOLID
Transport hazard class(es)	8
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	EMS Number – F-A, S-B Limited Quantities – 1 kg



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

Not Applicable

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

Product Name	Group
Sodium hydroxide	Not Available
Vermiculite	Not Available

Transport in bulk in accordance with the ICG Code

Product Name	Ship Type
Sodium hydroxide	Not Available
Vermiculite	Not Available

SECTION 15 Regulatory Information

Safety, Health, and Environmental Regulations / Legislation Specific for the Substance or Mixture

❖ Sodium hydroxide is found on the following regulatory lists

US ACGIH Threshold Limit Values (TLV)
US AIHA Workplace Environmental Exposure Levels (WEELs)
US CWA (Clean Water Act) – List of Hazardous Substances
US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) – Chemical Substance Inventory
US TSCA Chemical Substance Inventory – Interim List of Active Substances

❖ Vermiculite is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
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Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

❖ Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
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	No



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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)	No
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
Sodium hydroxide	1000	454

State Regulations

❖ US California Proposition 65

None Reported

National Inventory Status

National Inventory	Status
Australia – AIIC / Australia Non-Industrial Use	Yes
Canada – DSL	No (vermiculite)
Canada – NDSL	No (sodium hydroxide; vermiculite)
China – IECSC	Yes
Europe – EINEC / ELINCS / NLP	No (vermiculite)
Japan – ENCS	No (vermiculite)
Korea – KECI	Yes
New Zealand – NZIoC	Yes
Philippines – PICCS	Yes
USA – TSCA	No (vermiculite)
Taiwan – TCSI	Yes
Mexico – INSQ	Yes
Vietnam – NCI	Yes
Russia – FBEPH	No (vermiculite)
Legend:	<i>Yes = All CAS declared ingredients are on the inventory</i> <i>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)</i>

SECTION 16 Other Information

Revision Date	07/20/2021
Initial Date	08/09/2016

The data and information as stated was furnished by the manufacturer/vendor/supplier of this product. Alpha Resources LLC cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.