

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : **Flo-Out Drain Opener**
 Product code : 1137

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Caustic Drain Opener

1.3. Details of the supplier of the safety data sheet

Flo-Kem
 19402 Susana Rd.
 Rancho Dominguez, CA 90221 - USA
 T 310-632-7124 - F 310-631-7496
<http://www.flo-kem.com>

1.4. Emergency telephone number

Emergency number : CHEMTEL: 800-255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Met. Corr. 1 H290
 Acute Tox. 4 (Dermal) H312
 Skin Corr. 1B H314
 Eye Dam. 1 H318
 Aquatic Acute 3 H402

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms :



Signal word :

Danger

Hazard statements :

: May be corrosive to metals.
 Harmful in contact with skin.
 Causes severe skin burns and eye damage.
 Causes serious eye damage.
 Harmful to aquatic life.

Precautionary statements :

: Keep only in original container.
 Do not breathe dust, fume.
 Wash hands, forearms and face thoroughly after handling.
 Avoid release to the environment.
 Wear protective clothing, eye protection, face protection.
 If swallowed: rinse mouth. Do NOT induce vomiting.
 If on skin: Wash with plenty of soap and water.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a poison center or doctor/physician.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 Take off contaminated clothing and wash it before reuse.
 Wash contaminated clothing before reuse.

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Absorb spillage to prevent material-damage.
Store locked up.
Store in corrosive resistant container or with a resistant inner liner.
Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Hazard not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

(NOTE: If component displays the * (asterisk) symbol, the following statement applies.)

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
sodium hydroxide	(CAS-No.) 1310-73-2	>= 90	Met. Corr. 1, H290 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402
sodium carbonate	(CAS-No.) 497-19-8	< 5	Eye Irrit. 2A, H319
aluminum (granular)	(CAS-No.) 7429-90-5	1 - 5	Water-react. 2, H261

(NOTE: If component displays the * (asterisk) symbol, the following statement applies.)

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact	: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties.
Symptoms/effects after skin contact	: Harmful in contact with skin. Blisters. Causes burns/corrosion of the skin.
Symptoms/effects after eye contact	: Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.
Symptoms/effects after ingestion	: Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Extinguishing media for surrounding fires. Adapt extinguishing media to the environment.
Unsuitable extinguishing media	: Water. Halogenated extinguishing agents.

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5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity	: Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts on exposure to water (moisture) with (some) metals: release of highly flammable gases/vapors (hydrogen). Absorbs the atmospheric CO ₂ . Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Risk of spontaneous ignition: Fine aluminum powders will react on exposure to water (moisture) and generate flammable/explosive hydrogen gas. Aluminum granules do not contain the potential for a dust cloud explosion.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: No additional information available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Isolate from fire, if possible, without unnecessary risk.
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6.1.1. For non-emergency personnel

Protective equipment	: Protective goggles. Protective gloves. Protective clothing. Respiratory protection.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Dam up the solid spill. Reaction: dilute combustible gas/vapor with water curtain.
Methods for cleaning up	: Collect the spill only if it is in a dry state. Wetted substance: cover with powdered limestone or dry sand, earth, vermiculite. Minimize generation of dust. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Store away from other materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: May be corrosive to metals.
Precautions for safe handling	: Do not get in eyes, on skin, or on clothing. Do not breathe dust. Avoid dust formation. Ensure good ventilation of the work station. Handle and open the container with care. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Observe strict hygiene. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and forearms thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Provide local exhaust or general room ventilation. Comply with applicable regulations.
Storage conditions	: Protect from moisture.
Incompatible products	: Strong acids. Oxidizing agent.
Storage area	: Store in a cool, dry well-ventilated area. Keep container tightly closed when not in use.
Packaging materials	: Store in a corrosive resistant container or with a resistant inner liner.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium hydroxide (1310-73-2)		
ACGIH	ACGIH Ceiling (mg/m ³)	2 mg/m ³
ACGIH	Remark (ACGIH)	URT, eye, & skin irr
OSHA	OSHA PEL (TWA) (mg/m ³)	2 mg/m ³

aluminum (granular) (7429-90-5)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³

8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Protective clothing.
Respiratory protection	: Wear respiratory protection.
Other information	: Do not eat, drink or smoke during use.
Appropriate engineering controls	: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Color	: White
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
pH (1%) solution	: 13 - 14
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Vapor pressure	: No data available
Vapor density	: No data available
Specific Gravity @ 77° F	: No data available
Solubility	: Soluble in water
Partition Coefficient n-Octanol-Water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available

9.2. Other information

VOC content	: 0 g/l
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SECTION 10: Stability and reactivity

10.1. Reactivity

Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts on exposure to water (moisture) with (some) metals: release of highly flammable gases/vapors (hydrogen). Absorbs the atmospheric CO₂. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Risk of spontaneous ignition: Fine aluminum powders will react on

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exposure to water (moisture) and generate flammable/explosive hydrogen gas. Aluminum granules do not contain the potential for a dust cloud explosion.

10.2. Chemical stability

Rapidly absorbs carbon dioxide & water from the air.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Extremely high or low temperatures.

10.5. Incompatible materials

Oxidizers. Acids, halogenated compounds, long contact with aluminum, brass, bronze, copper, lead, tin and alloy. Water.

10.6. Hazardous decomposition products

Thermal decomposition generates : Toxic vapors. Corrosive vapors. Sodium oxides. Metal oxides. Hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Flo-Out Drain Opener	
ATE US (dermal)	1377.551 mg/kg body weight
sodium hydroxide (1310-73-2)	
LD50 dermal rabbit	1350 mg/kg (Rabbit; Literature)
ATE US (dermal)	1350 mg/kg body weight
sodium carbonate (497-19-8)	
LD50 oral rat	2800 mg/kg (Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Experimental value)
ATE US (oral)	2800 mg/kg body weight
aluminum (granular) (7429-90-5)	
LD50 oral rat	> 15900 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Read-across)
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Harmful in contact with skin
Symptoms/effects after inhalation	: WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties.
Symptoms/effects after skin contact	: Harmful in contact with skin. Blisters. Causes burns/corrosion of the skin.
Symptoms/effects after eye contact	: Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.
Symptoms/effects after ingestion	: Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

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SECTION 12: Ecological information

12.1. Toxicity

sodium hydroxide (1310-73-2)	
LC50 fish 1	45.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Solution >=50%)
EC50 Daphnia 1	40.4 mg/l (48 h; Ceriodaphnia sp.; Nominal concentration)
LC50 fish 2	189 mg/l (48 h; Leuciscus idus)
TLM fish 1	99 mg/l (48 h; Lepomis macrochirus)
TLM fish 2	125 ppm (96 h; Gambusia affinis)
sodium carbonate (497-19-8)	
LC50 fish 1	300 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	< 424 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	14 mg/l (168 h; Plankton)
LC50 fish 2	740 mg/l (96 h; Gambusia affinis)
EC50 Daphnia 2	265 mg/l (48 h; Daphnia magna)
TLM fish 1	300 ppm (96 h; Lepomis macrochirus)
TLM other aquatic organisms 1	500 ppm (96 h; Daphnia magna)
Threshold limit algae 1	242 mg/l (5 days; Algae)
aluminum (granular) (7429-90-5)	
LC50 fish 1	> 218.64 mg/l (96 h; Pimephales promelas; GLP)
Threshold limit algae 1	> 100 mg/l (72 h; Selenastrum capricornutum; Nominal concentration)

12.2. Persistence and degradability

sodium hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
sodium carbonate (497-19-8)	
Persistence and degradability	Biodegradability: not applicable. Low potential for adsorption in soil.
ThOD	Not applicable (inorganic)
aluminum (granular) (7429-90-5)	
Persistence and degradability	Biodegradability: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

sodium hydroxide (1310-73-2)	
Bioaccumulative potential	Bioaccumulation: not applicable.
sodium carbonate (497-19-8)	
Log Pow	-6.19 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
aluminum (granular) (7429-90-5)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with Local, State, and Federal regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

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14.1. UN Number

UN-No.(DOT) : 3262
Other information : No supplementary information available

14.2. UN proper shipping name

Proper Shipping Name (DOT) : UN3262, Corrosive Solid, Basic, Inorganic, N.O.S. (Sodium Hydroxide), 8 PGII
Hazard labels (DOT) : 8 - Corrosive



SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

sodium hydroxide (1310-73-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
Listed on the Canadian DSL (Domestic Substances List)

RQ (Reportable quantity, section 101(14) of CERCLA as published on EPA's List of Lists) :	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

sodium carbonate (497-19-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
SARA Section 311/312 Hazard Classes : Immediate (acute) health hazard

aluminum (granular) (7429-90-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313
SARA Section 311/312 Hazard Classes : Reactive hazard
Immediate (acute) health hazard

15.2. International regulations

CANADA

sodium hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

Abbreviations Legend:

H261	In contact with water releases flammable gas
H290	May be corrosive to metals

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H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H402	Harmful to aquatic life

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Revision date: 10/12/2018

Supersedes: 11/14/2014

Version: 1.1