TECH DATA

ChemStation

General Purpose Alkaline Concentrate

4311

Conforms to USDA Guidelines – A1

PRODUCT DESCRIPTION

- ChemStation Product 4311 is a highly concentrated, alkaline cleaner formulated specifically for use in various applications such as high temperature spray cabinet and immersion tank degreasing, as well as bottle washing. It is scientifically formulated to remove process oils, grease and carbonaceous soils.
- Product 4311 can be used to remove a wide range of soils on water bottles, cast iron, steel and stainless steel. This product is not recommended for use on aluminum.
- Product 4311 is a balanced blend of biodegradable surfactants and alkaline builders, and is economical to use at all temperatures.

FEATURES — BENEFITS

- High Reserve Alkalinity ..... Effective on grease, oil, and oxidized deposits.
- Liquid ..... Convenient to use, easy dispensing and controlling.
- Self-Emulsifying ..... Effectively penetrates and removes grease and oil deposits.

TYPICAL INSPECTIONS

- Appearance ..... Thin liquid
- Color ..... Clear
- Odor ..... Mild
- Solubility ..... Complete
- pH neat 13.6
- Specific Gravity 1.046
- Foaming ..... Low to Moderate
- Flash Point ..... >200°F (nonflammable)

DILUTION

- Consult sales representative for recommendation.

SAFETY

- Keep out of the reach of children. For industrial and commercial use only.
- Safety Data Sheets available with delivery or upon request.
- Read label instructions and SDS carefully.

Safety Data Sheet (SDS)
4311

SDS Revision Date: 07/31/2025

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity	4311
Alternate Names	4311

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

Intended use	Contact ChemStation representative.
Application Method	Contact ChemStation representative.

1.3. Details of the supplier of the safety data sheet

Company Name	ChemStation 2360 W Dorothy Lane Ste 112 Dayton, OH 45439
Emergency	
CHEMTREC (USA)	(800) 424-9300
Customer Service: ChemStation	(937) 534-0410

2. Hazard identification of the product

2.1. Classification of the substance or mixture

Skin Corr. 1B;H314 Causes severe skin burns and eye damage.

2.2. Label elements

Danger

H314 Causes severe skin burns and eye damage.

[Prevention]:

P260 Do not breathe dust, fume, mist, vapors or spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves, eye protection, face protection.

[Response]:

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 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, doctor or physician.

P363 Wash contaminated clothing before reuse.

[Storage]:

P405 Store locked up.

[Disposal]:

P501 Dispose of contents or container in accordance with local and national regulations.

3. Composition/information on ingredients

Formula information for this product is being withheld as a trade secret under the provisions of 29 CFR 1910.1200(i).

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Ethanolamine **CAS Number: 0000141-43-5**	**1.0 - 10**	**Acute Tox. 4;H332** **Acute Tox. 4;H312** **Acute Tox. 4;H302** **Skin Corr. 1B;H314**	**[1][2]**
Potassium hydroxide. **CAS Number: 0001310-58-3**	**1.0 - 10**	**Acute Tox. 4;H302** **Skin Corr. 1A;H314: C >=5 %** **Skin Corr. 1B;H314: 1 % <= C < 5 %** **Skin Irrit. 2;H315: 0.5 % <= C < 1 %** **Eye Dam. 1;H318: > 1 %** **Eye Irrit. 2;H319: 0.5 % <= C < 1 %**	**[1][2]**

[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

Section 4. First-aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

Overview No specific symptom data available.
Check section 2.2 (GHS Label Elements) for further details.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO_2, powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Do not breathe dust, fume, mist, vapors or spray.

5.3. Advice for fire-fighters

Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from fire fighting to enter drains or water ways.

ERG Guide No. 154

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.

Contain and absorb spillage with non-combustible materials e.g. sand, earth, vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations. (See section 13).

Clean, preferably with a detergent. Do not use solvents.

Do not allow spills to enter drains or watercourses.

If drains, sewers, streams or lakes are contaminated, inform the local water company immediately. In the case of contamination of rivers, streams or lakes the Environmental Protection Agency should also be informed.

Section 7. Handling and storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Any acidic material, ammonia, urea, oxidizable materials and metals such as nickel, copper, tin, aluminum and iron.

Check section 2.2 (GHS Label Elements) for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

Section 8. Exposure controls / personal protection

8.1. Control Parameters - Formula information for this product is being withheld as a trade secret under the provisions of 29 CFR 1910.1200(i).

Exposure

CAS No.	Ingredient	Source	Value
0000141-43-5	Ethanolamine	OSHA	TWA 3 ppm (6 mg/m3)
		ACGIH	TWA: 3 ppm STEL: 6 ppm
		NIOSH	TWA 3 ppm (8 mg/m3) ST 6 ppm (15 mg/m3)
		Supplier	No Established Limit

0001310-58-3	Potassium hydroxide.	OSHA	No Established Limit
		ACGIH	Ceiling: 2 mg/m3
		NIOSH	C 2 mg/m3
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000141-43-5	Ethanolamine	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0001310-58-3	Potassium hydroxide.	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.

Eyes Wear approved eye protection. The use of a face shield is also recommended for skin protection in the area of the eyes. An eye wash station is suggested as a good workplace practice.

Skin Chemical resistant clothing such as coveralls/apron boots should be worn. Chemical Impervious Gloves

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

Section 9. Physical and chemical properties

Appearance	
Odor	
Odor threshold	Not Measured
pH	13.3 - 13.9
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	212 deg F
Flash Point	>200 degrees F PMCC (non-flammable)
Evaporation rate (Ether = 1)	0.33
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** Not Measured
	Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Determined
Vapor Density	Not Determined
Relative Density	1.041 - 1.051
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

Foaming Moderate

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Any acidic material, ammonia, urea, oxidizable materials and metals such as nickel, copper, tin, aluminum and iron.

10.6. Hazardous decomposition products

No hazardous decomposition data available.

Section 11. Toxicological information

Accute Toxicity - Formula information for this product is being withheld as a trade secret under the provisions of 29 CFR 1910.1200(i).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Ethanolamine - (141-43-5)	1,515.00, Rat - Category: 4	2,504.00, Rabbit - Category: 5	No data available	No data available	No data available
Potassium hydroxide. - (1310-58-3)	388.00, Rat - Category: 4	No data available	No data available	No data available	No data available

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

Section 12. Ecological information

12.1. Toxicity - Formula information for this product is being withheld as a trade secret under the provisions of 29 CFR 1910.1200(i).

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Ethanolamine - (141-43-5)	349.00, Cyprinius carpio	65.00, Daphnia magna	2.80 (72 hr), Pseudokirchnerella subcapitata
Potassium hydroxide. - (1310-58-3)	80.00, Gambusia affinia	Not Available	Not Available

12.2. Persistence and degradability

This product is fully biodegradable.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

Section 13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

14.1. UN number	NA1760
14.2. UN proper shipping name	Compound, Cleaning, Liquid, (Ethanolamine)
14.3. Transport hazard class(es)	8
14.4. Packing group	III

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

EPCRA 311/312 Chemicals and RQs (lbs):

Potassium hydroxide. (1,000.00)

EPCRA 302 Extremely Hazardous :

(No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals:

Dipropylene glycol methyl ether

Proposition 65 - Carcinogens (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Developmental Toxins (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0.0%):
(No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0.0%):
(No Product Ingredients Listed)

N.J. RTK Substances (>1%):

Dipropylene glycol methyl ether

Ethanolamine

Potassium hydroxide.

Penn RTK Substances (>1%):

Dipropylene glycol methyl ether

Ethanolamine

Potassium hydroxide.

Section 16. Other information

Issue Date	04/08/2015
Revision History	04/08/2015 04/22/2015 06/28/2015 08/04/2015 02/16/2016 05/20/2017 09/01/2018 09/15/2018 04/29/2022 12/03/2022 02/07/2023 04/02/2023 10/07/2023 04/10/2024 07/31/2025

The information and recommendations contained herein are based upon data believed to be correct. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

End of Document

ChemStation

September 18, 2023

This letter concerns the compound authorization of ChemStation Product 4311.

When used according to label directions, this product is safe and suitable for use in a federally inspected food processing facility, as a cleaning agent on all surfaces, or for use with steam or mechanical cleaning devices, in all departments of official establishments operating under the Federal meat, poultry, shell egg grading, and egg products inspection programs.

Before using this compound, food products and packaging materials must be removed from the room or carefully protected. After using this compound, food contact surfaces must be thoroughly rinsed with potable water.

When used according to label directions, this product meets the requirements of 21 CFR117.35 (b) Substances used in Cleaning and Sanitizing; Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food.

Sincerely,

Benjamin J. Laux

Benjamin Laux
Director R&D
ChemStation International

3400 Encrete Ln. ♦ Dayton, OH 45439 ♦ (937) 294-8265 ♦ (800) 554-8265 ♦ Fax (937) 294-5360 ♦ www.chemstation.com