

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : TEMPO
Product code : 117

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Dish Machine Detergent
Recommended use : Warewashing
Restrictions on use : For professional use only

1.3. Supplier

UNX-Christeyns, LLC
707 E Arlington Blvd.
Greenville, NC 27858
USA
T 252-756-8616 / 800.869.6171
www.unxchristeyns.com - info@unxchristeyns.com

1.4. Emergency telephone number

Emergency number : VELOCITY EHS (800) 255-3924 (24 HOURS)
(For use only in the event of emergencies involving a spill, leak, fire, exposure, or accident involving chemicals)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals Category 1	H290	May be corrosive to metals
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H290 - May be corrosive to metals
H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary statements (GHS US) :

P234 - Keep only in original container.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

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P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
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.
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material-damage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Potassium hydroxide	CAS-No.: 1310-58-3	10-30
Diphosphoric acid, tetrapotassium salt	CAS-No.: 7320-34-5	5-10
Sodium Hydroxide	CAS-No.: 1310-73-2	1-5
Silicic Acid, Sodium Salt	CAS-No.: 1344-09-8	1-5

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash off immediately with plenty of water. Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse.
First-aid measures after eye contact : Rinse immediately with plenty of water for 15 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 out with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

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4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

Symptoms/injuries after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Foam. Dry powder.

Unsuitable extinguishing media : Do not use a water jet as this can spread the fire and may cause the splattering of corrosive liquid.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in a closed container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium Hydroxide (1310-73-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium hydroxide
ACGIH OEL Ceiling	2 mg/m ³
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Sodium hydroxide
OSHA PEL TWA	2 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	2 mg/m ³
USA - AIHA - Occupational Exposure Limits	
WEEL STEL	2 mg/m ³
Potassium hydroxide (1310-58-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Potassium hydroxide
ACGIH OEL Ceiling	2 mg/m ³
Remark (ACGIH)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2024
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	2 mg/m ³

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Chemical resistant PVC gloves
Eye protection:
Safety Glasses

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Red
Odor	: No data available
Odor threshold	: No data available
pH	: 11.8 – 12.8
pH solution concentration	: 1 %
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
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Harmful in contact with skin.
Acute toxicity (inhalation) : Not classified

TEMPO	
ATE US (dermal)	1100 mg/kg body weight

Sodium Hydroxide (1310-73-2)	
LD50 oral rat	140 – 340 mg/kg
LD50 dermal rabbit	1350 mg/kg

Potassium hydroxide (1310-58-3)	
LD50 oral rat	273 mg/kg
LD50 oral	333 mg/kg body weight
ATE US (oral)	606.7 mg/kg body weight

Diphosphoric acid, tetrapotassium salt (7320-34-5)	
ATE US (oral)	4067 mg/kg

Skin corrosion/irritation : Causes severe skin burns.
pH: 11.8 – 12.8

Serious eye damage/irritation : Causes serious eye damage.
pH: 11.8 – 12.8

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Potential Adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

Symptoms/injuries after eye contact : Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Sodium Hydroxide (1310-73-2)	
LC50 - Fish [1]	160 mg/l 24 hours freshwater, static
EC50 - Crustacea [1]	40.4 mg/l 48 hours

Potassium hydroxide (1310-58-3)	
LC50 - Fish [1]	Western mosquitofish (<i>Gambusia affinis</i>) 80 mg/l. 96 hours

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12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
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Sodium Hydroxide (1310-73-2)

Persistence and degradability	Rapidly degradable
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Potassium hydroxide (1310-58-3)

Persistence and degradability	Not rapidly degradable
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Diphosphoric acid, tetrapotassium salt (7320-34-5)

Persistence and degradability	Not rapidly degradable
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Silicic Acid, Sodium Salt (1344-09-8)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

Sodium Hydroxide (1310-73-2)

Bioaccumulative potential	Does not Bioaccumulate.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	:	Do not allow the product to contaminate any body of water. Refer to Section 8 for personal protection equipment.
Waste treatment methods	:	Avoid unauthorized disposal. Do not dump into any body of water. Comply with federal, state/provincial and local laws/regulations. Do not reuse empty containers.

SECTION 14: Transport information

In accordance with DOT

DOT

14.1. UN number

NA1760

14.2. Proper Shipping Name

Compounds, cleaning liquid ((Potassium hydroxide))


Transport document description

NA1760 Compounds, cleaning liquid (Potassium hydroxide), 8, II

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DOT	
14.3. Transport hazard class(es)	8
	
14.4. Packing group	II
14.5. Environmental hazards	Dangerous for the environment: No
No supplementary information available	

14.6. Special precautions for user

DOT	
UN-No.(DOT)	: NA1760
DOT Special Provisions (49 CFR 172.102)	: 386 - Notwithstanding the provisions of §177.834(l) of this subchapter, cargo heaters may be used when weather conditions are such that the freezing of a wetted explosive material is likely. Shipments must be made by private, leased or contract carrier vehicles under exclusive use of the offeror. Cargo heaters must be reverse refrigeration (heat pump) units. Shipments made in accordance with this Special provision are excepted from the requirements of §173.60(b)(4) of this subchapter. B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. N37 - This material may be shipped in an integrally-lined fiber drum (1G) which meets the general packaging requirements of subpart B of part 173 of this subchapter, the requirements of part 178 of this subchapter at the packing group assigned for the material and to any other special provisions of column 7 of the 172.101 table. T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 30 L

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DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Sodium Hydroxide	1310-73-2	Present	Active	
Potassium hydroxide	1310-58-3	Present	Active	
Diphosphoric acid, tetrapotassium salt	7320-34-5	Not present	-	
Silicic Acid, Sodium Salt	1344-09-8	Present	Active	

Sodium Hydroxide (1310-73-2)

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ 1000 lb

Potassium hydroxide (1310-58-3)

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ 1000 lb

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

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Revision date : 6/26/2024

Full text of H-phrases	
H290	May be corrosive to metals
H302	Harmful if swallowed
H312	Harmful in contact with skin

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Full text of H-phrases	
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

Safety Data Sheet (SDS), USA ML

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.