Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/11/2016 Reviewed on 08/11/2016

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1 Identification

· **Product Identifier**

· **Trade name: NuWet DM41**
· **Product Number:** ng-NWDM41
· **Relevant identified uses of the substance or mixture and uses advised against:**
Use as directed by manufacturer.
· **Product Description**
Alkaline Aqueous Cleaner. Removal of polishing compounds, machining fluids oils and particulates on plated surfaces, glass, silicon, GaAs, polymers, titanium, nitinol, stainless steel and steel.
· **Application of the substance / the mixture:** Industry-specific application.

· **Details of the Supplier of the Safety Data Sheet:**
· **Manufacturer/Supplier:**
NuGeneration Technologies, LLC (dba NuGenTec)
1155 Park Avenue, Emeryville, CA 94608
salesteam@nugentec.com www.nugentec.com
1-888-996-8436 or 1-707-820-4080 for product information
· **Emergency telephone number:**
PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

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2 Hazard(s) Identification

· **Classification of the substance or mixture:**

GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

· **Label elements:**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Potassium Hydroxide
Proprietary Hydrotrope
· **Hazard statements:**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements:**
P260 Do not breathe dusts or mists.
P280 Wear eye protection / face protection.
P264 Wash thoroughly after handling.

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P303+P361+P353 If on skin (or hair): 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/doctor.
P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363 Wash contaminated clothing before reuse.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

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3 Composition/Information on Ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

	Proprietary Hydrotrope Eye Dam. 1, H318	6%
CAS: 1310-58-3 RTECS: TT 2102000	Potassium Hydroxide Skin Corr. 1A, H314; Acute Tox. 4, H302	2-12%
	Proprietary Chelating Agent Skin Irrit. 2, H315; Aquatic Chronic 4, H413	3.15%
	Proprietary Salt Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	2.5%
	Proprietary Surfactant Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2%

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· **Additional information:**
The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

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4 First-Aid Measures

· **Description of first aid measures:**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation occurs, consult a doctor.
· **After eye contact:**
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
· **After swallowing:**
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Do not induce vomiting without medical advice.
If vomiting does occur, repeat fluid administration
Seek immediate medical advice.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed:**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

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5 Fire-Fighting Measures

· **Extinguishing media:**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture:**
If incinerated, product will release the following toxic fumes: Oxides of carbon, phosphorus and potassium.
· **Advice for firefighters:**
· **Protective equipment:**
Mouth respiratory protective device.
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

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6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
Avoid contact with skin, eyes and clothing.

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Ensure adequate ventilation.
· **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.
· **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Handling**
· **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities:**
Store away from strong acids, strong oxidizing agents, strong reducing agents, reactive metals (Zinc & Aluminum) and their alloys (Brass, etc.), Nitro compounds, azides, galvanaized surfaces and organic materials.
· **Storage**
· **Requirements to be met by storerooms and receptacles:** Store in the original container.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s):** No further relevant information available.

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8 Exposure Controls/Personal Protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters:**
All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.
· **Components with occupational exposure limits:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

1310-58-3 Potassium Hydroxide	
REL	Ceiling limit value: 2 mg/m³
TLV	Ceiling limit value: 2 mg/m³

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· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Select glove material based on penetration times, rates of diffusion and degradation.
· **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material:**
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
· **Eye protection:**

Tightly sealed goggles

· **Body protection:**

Protective work clothing

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Color:	Colorless

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· **Odor:**	Mild
· **Odor threshold:**	Not determined.
· **pH-value @ 20 °C (68 °F):**	13.5
· **Change in condition**	
Melting point/Melting range:	--
Boiling point/Boiling range:	100 °C (212 °F)
· **Flash point:**	None
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	277 °C (531 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	0.0 Vol %
Upper:	0.0 Vol %
· **Vapor pressure @ 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density @ 20 °C (68 °F):**	1.107 g/cm³ (9.238 lbs/gal)
· **Bulk density:**	9.346 lbs/gal
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with:**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic @ 20 °C (68 °F):	1 s (DIN 53211/4)
· **Solvent content:**	
Organic solvents:	0.0 %
Water:	73.9 %
Solids content:	7.9 %
· **Other information:**	No further relevant information available.

10 Stability and Reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:** Stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions:** No dangerous reactions known.

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· **Conditions to avoid:** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

· **Information on toxicological effects:**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1310-58-3 Potassium Hydroxide		
Oral	LD50	273 mg/kg (rat)
Inhalative	LC50/96 hours	80 mg/l (daphnia)
Proprietary Chelating Agent		
Oral	LD50	>2400 mg/kg (rat)
Dermal	LD50	>7940 mg/kg (rabbit)
Inhalative	LC50/96 hours	>386 mg/l (Trout)
Proprietary Salt		
Oral	LD50	>2000 mg/kg (mouse)
Dermal	LD50	>4640 mg/kg (rabbit)
Proprietary Surfactant		
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>80 mg/l (rat)

· **Primary irritant effect:**
· **On the skin:** Strong caustic effect on skin and mucous membranes.
· **On the eye:**
Strong irritant with the danger of severe eye injury.
Corrosive effect.
Causes serious eye irritation.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Irritant
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories:**
· **IARC (International Agency for Research on Cancer):**
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

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· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

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12 Ecological Information

· **Toxicity:**

· **Aquatic toxicity:**	
Proprietary Chelating Agent	
EC50	>3 mg/l (Green algae) >527 mg/l (Water flea)
Proprietary Surfactant	
EC50	<1 mg/l (Water flea)

· **Persistence and degradability:** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential:** No further relevant information available.
· **Mobility in soil:** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
· **Results of PBT and vPvB assessment:**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:** No further relevant information available.

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13 Disposal Considerations

· **Waste treatment methods:**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.

· **Uncleaned packagings**
· **Recommendation:**
Dispose of as unused product.
Disposal must be made according to official regulations.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport Information

· **UN-Number:**
· **DOT, ADR, IMDG, IATA** UN3266
· **UN proper shipping name:**
· **DOT** Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide)
· **ADR** UN3266 Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide)
· **IMDG, IATA** CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (POTASSIUM HYDROXIDE)
· **Transport hazard class(es):**
· **DOT**

· **Class:** 8 Corrosive substances
· **Label:** 8

· **ADR**

· **Class:** 8 (C7) Corrosive substances
· **Label:** 8

· **IMDG, IATA**

· **Class:** 8 Corrosive substances
· **Label:** 8
· **Packing group:**
· **DOT, ADR, IMDG, IATA** II
· **Environmental hazards:** Not applicable.
· **Special precautions for user:** Warning: Corrosive substances
· **Danger code (Kemler):** 80
· **EMS Number:** F-A,S-B
· **Segregation groups:** Alkalis
· **Stowage Category** B
· **Stowage Code** SW2 Clear of living quarters.

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· **Segregation Code** SG35 Stow "separated from" acids.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
· **Transport/Additional information:**

· **DOT**
· **Quantity limitations:** On passenger aircraft/rail: 1 L
On cargo aircraft only: 30 L

· **ADR**
· **Excepted quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **IMDG**
· **Limited quantities (LQ):** 1L
· **Excepted quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":** UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (POTASSIUM HYDROXIDE), 8, II

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15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
· **SARA (Superfund Amendments and Reauthorization):** N/A

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **New Jersey Right-to-Know List:**

1310-58-3	Potassium Hydroxide

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· **New Jersey Special Hazardous Substance List:**		
1310-58-3	Potassium Hydroxide	CO, R1

· **Pennsylvania Right-to-Know List:**	
1310-58-3	Potassium Hydroxide

· **Pennsylvania Special Hazardous Substance List:**		
1310-58-3	Potassium Hydroxide	E

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**

GHS05

· **Signal word:** Danger

· **Hazard-determining components of labeling:**

Potassium Hydroxide

Proprietary Hydrotrope

· **Hazard statements:**

H314 Causes severe skin burns and eye damage.

· **Precautionary statements:**

P260	Do not breathe dusts or mists.
P280	Wear eye protection / face protection.
P264	Wash thoroughly after handling.
P303+P361+P353	If on skin (or hair): 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/doctor.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.

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· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 08/11/2016 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

· **** Data compared to the previous version altered.***

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