SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture	Hexaethyl Guanidinium Chloride Aqueous Solution
Registration number	-
Synonyms	HEGCL Aqueous Solution
Issue date	05-July-2017
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Chemical intermediate / Industrial chemical.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier	VanDeMark Chemical B.V.
Address	Schiekade 830, 3032 AL Rotterdam, The Netherlands
e-mail	sales@vdmchemical.com
Manufacturer	VanDeMark Chemical Inc.
Address	1 North Transit Road, Lockport, NY 14094 USA
Telephone	+1 716-433-6764
e-mail	sales@vdmchemical.com

1.4. Emergency telephone number

CHEMTREC +1-703-527-3887 (International)

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 5
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Spain	Servicio de Información Toxicologica: +34 91 562 04 20
Switzerland	Poison Center: Tel 145; +41 44 251 51 51

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards		
Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.
Environmental hazards		
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

Hazard summary Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. May cause irritation to the respiratory system. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Hexaethyl guanidium chloride

Hazard pictograms

Signal word Warning

Hazard statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H319	Causes serious eye irritation.

Precautionary statements

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTRE/doctor if you feel unwell.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal Not available.

Supplemental label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Water	50 - 62	7732-18-5 231-791-2	-	-	
Classification: -					
Hexaethyl guanidium chloride	30 - 40	69082-76-4 -	-	-	
Classification: Acute Tox. 4;H302, Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335, Aquatic Chronic 3;H412					
Sodium chloride	0 - 14	7647-14-5 231-598-3	-	-	
Classification: -					

Composition comments The full text for all H-statements is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

General information If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed May cause respiratory irritation. Skin irritation. May cause redness and pain. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards This product is not flammable.

5.1. Extinguishing media

Suitable extinguishing media Foam. Dry powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation. Avoid inhalation of mist and contact with skin and eyes. Wear appropriate personal protective equipment.

For emergency responders Keep unnecessary personnel away.

6.2. Environmental precautions Stop leak if possible without any risk. Prevent entry into waterways, sewer, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Clean surface thoroughly to remove residual contamination.

6.4. Reference to other sections For personal protection, see Section 8 of the SDS. For waste disposal, see Section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid breathing mist/vapours/spray. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Chemical intermediate / Industrial chemical.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value
Sodium chloride (CAS 7647-14-5)	TWA	5 mg/m3

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value
Sodium chloride (CAS 7647-14-5)	TWA	5 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls	Adequate ventilation should be provided whenever the material is heated or mists are generated. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Use chemical goggles / face shield. Eye wash station should be located in immediate work area.
Skin protection	
- Hand protection	Chemical resistant protective gloves consistent with Standard EN 374 Suitable materials with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): Neoprene - 0.6 mm coating thickness. Nitrile rubber (NBR) - 0.4 mm coating thickness. Notice: The selection of a specific glove for an application and duration of use in the workplace should also take in to account all relevant workplace factors. These include, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection) potential body reactions to any given glove material, as well as the instructions and specifications provided by the glove manufacturer.
- Other	Selection of specific items such as face shield, boots, apron, or full body suit will depend on task and potential for exposure. Polyethylene coatings of 10 mils provide a barrier for splash protection. Safety shower should be located in the immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water. Launder clothing before reuse.
Respiratory protection	Respiratory protections should be worn when there is a potential to exceed the exposure limit requirements or guidelines. When respiratory protection is required, use an approved cartridge for organic vapors with particulate filtration properties (A2-P2 for concentration up to 5.000 pmm, air powered A3-P3 for concentration up to 10.000 ppm). In higher concentrations or in case of insufficient data on concentration wear a positive-pressure supplied-air respirator.
Thermal hazards	When material is heated, wear gloves to protect against thermal burns.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Environmental exposure controls	Environmental manager must be informed of all major spillages.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Physical state	Liquid.
Form	Liquid.
Colour	Amber.
Odour	Slight.
Odour threshold	Not available.
pH	6 - 9
Melting point/freezing point	175 °C (347 °F)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Stable under normal temperature conditions and recommended use.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Avoid exposure to high temperatures or direct sunlight.
10.5. Incompatible materials	Strong acids. Strong bases.
10.6. Hazardous decomposition products	Hydrogen chloride. Carbon oxides. Nitrogen oxides.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed.
Symptoms	May cause respiratory irritation. Skin irritation. May cause redness and pain. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

11.1. Information on toxicological effects

Acute toxicity	Harmful if swallowed.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	Harmful to aquatic life with long lasting effects. Information given is based on data on the components and the ecotoxicology of similar products.
12.2. Persistence and degradability	The product is not biodegradable.
12.3. Bioaccumulative potential	The product is not expected to bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	No data available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	The product is water soluble and may spread in water systems.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers retain product residue, follow label warnings even after container is emptied.
EU waste code	16 05 06* The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Dispose in accordance with applicable federal, state, and local regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	Not established.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations	This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.
National regulations	Follow national regulation for work with chemical agents.
15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.
LD50: Lethal Dose, 50%.

References	HSDB® - Hazardous Substances Data Bank ECHA: European Chemical Agency.
Information on evaluation method leading to the classification of mixture	The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.
Full text of any H-statements not written out in full under Sections 2 to 15	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
Training information	Follow training instructions when handling this material.
Disclaimer	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.