VanDeMark
Phosgene Chemistry – Custom Chemicals

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	Amide Chloride
Registration number	-
Synonyms	None.
Issue date	24-March-2015
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.
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 Directive 67/548/EEC or 1999/45/EC as amended

Classification	R14, Repr. Cat. 2;R61, C;R35, Xn;R22

The full text for all R-phrases is displayed in section 16.

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 1A	H314 - Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.
Reproductive toxicity	Category 1B	H360D - May damage the unborn child.

Hazard summary

Physical hazards	Reacts violently with water.
Health hazards	May cause harm to the unborn child. Also harmful if swallowed. Causes severe burns. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Corrosive.

Main symptoms Eye contact: Prolonged contact causes serious eye and tissue damage. Skin contact: Burning pain and severe corrosive skin damage. Inhalation: Aspiration may cause pulmonary oedema and pneumonitis. Ingestion: Can burn mouth, throat, and stomach.

2.2. Label elements

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

Contains: Chloro-N,N-dimethylformiminium chloride, N,N-Dimethylformamide

Hazard pictograms

Signal word Danger

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H360D	May damage the unborn child.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

Response

P308 + P313	IF exposed or concerned: Get medical advice/attention.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P310	Immediately call a POISON CENTRE or doctor/physician.
P363	Wash contaminated clothing before reuse.

Storage

P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information Reacts violently with water.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Chloro-N,N-dimethylformiminium chloride	90-95	3724-43-4 425-970-6	01-0000017237-70-0002	612-250-00-3	
Classification: **DSD:** R14, Repr. Cat. 2;R61, C;R35, Xn;R22					E
CLP: Acute Tox. 4;H302, Skin Corr. 1A;H314, Repr. 1B;H360D					
N,N-Dimethylformamide	5-10	68-12-2 200-679-5	05-2116301908-45-0000	616-001-00-X	#
Classification: **DSD:** Repr. Cat. 2;R61, Xn;R20/21, Xi;R36					E
CLP: Flam. Liq. 3;H226, Acute Tox. 4;H312, Eye Irrit. 2;H319, Acute Tox. 4;H332, Repr. 1B;H360D					

List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.
#: This substance has been assigned Community workplace exposure limit(s).
Note E (Table 3.2): Substances with specific effects on human health (see Chapter 4 of Annex VI to Directive 67/548/EEC) that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word "Also".

Composition comments The full text for all R- and H-phrases 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 Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately!

Skin contact Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately.
For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops or persists.
Chemical burns must be treated by a physician.

Eye contact Do not rub eye. 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 immediately.

Ingestion Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and take these instructions.

4.2. Most important symptoms and effects, both acute and delayed Eye contact: Prolonged contact causes serious eye and tissue damage. Skin contact: Burning pain and severe corrosive skin damage. Inhalation: Aspiration may cause pulmonary oedema and pneumonitis. Ingestion: Can burn mouth, throat, and stomach.

4.3. Indication of any immediate medical attention and special treatment needed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Symptoms may be delayed. Keep victim under observation. Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards The product is non-combustible. Will burn if involved in a fire. Decomposes at elevated temperatures. Contact with certain metals liberates flammable gas. Containers may explode when heated.

5.1. Extinguishing media

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

Unsuitable extinguishing media Water or Foam.

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 contact with eyes, skin, and clothing. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not breathe dust.

For emergency responders Keep unnecessary personnel away.

6.2. Environmental precautions Prevent entry into waterways, sewer, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Use explosion-proof electrical equipment if airborne dust levels are high. Cover powder spill with plastic sheet or tarp to minimise spreading. DO NOT USE WATER. Sweep up and place into a proper container for disposal. Minimise dust generation and accumulation. Clean contaminated surface thoroughly.

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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. In case of inadequate ventilation, use respiratory protection. Do not breathe dust. Avoid contact with skin, eyes and clothing. Wear appropriate personal protective equipment (See Section 8). Immediately change contaminated clothes. Isolate contaminated clothing and wash before reuse. Do not eat, drink or smoke when using the product. Avoid dust formation. Material may react violently with water. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Keep container tightly closed. Store in a cool, dry, well-ventilated place. Keep in original container. Do not store in unlabelled containers. Keep away from heat. Store under nitrogen. Keep out of reach of children. Store in a cool place below 41°F (5°C). Shelf life 6 months.

7.3. Specific end use(s)

Chemical intermediate.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
N,N-Dimethylformamide (CAS 68-12-2)	STEL	30 mg/m3
		10 ppm
	TWA	15 mg/m3
		5 ppm

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
N,N-Dimethylformamide (CAS 68-12-2)	STEL	30 mg/m3
		10 ppm
	TWA	15 mg/m3
		5 ppm

Biological limit values

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

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
N,N-Dimethylformamide (CAS 68-12-2)	Workers	Dermal	5900 µg/cm²	Acute exposure local effects
		Dermal	446 µg/cm²	Long term exposure local effects
		Dermal	3.31 mg/kg/day	Long term exposure systemic effects
		Dermal	26.3 mg/kg/day	Acute exposure systemic effects
		Inhalation	30 mg/m3	Acute exposure local effects
		Inhalation	30 mg/m3	Acute exposure systemic effects
		Inhalation	15 mg/m3	Long term exposure local effects
		Inhalation	15 mg/m3	Long term exposure systemic effects

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
N,N-Dimethylformamide (CAS 68-12-2)	Aqua (freshwater)	Not applicable	30 mg/l	

Components	Type	Route	Value	Form
	Aqua (intermittent releases)	Not applicable	30 mg/l	
	Aqua (marine water)	Not applicable	3 mg/l	
	Sediment (freshwater)	Not applicable	25.05 mg/kg	
	Sewage Treatment Plant	Not applicable	123 mg/l	
	Soil	Not applicable	16.235 mg/kg	

Exposure guidelines

UK EH40 WEL: Skin designation

N,N-Dimethylformamide (CAS 68-12-2) Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls Use explosion-proof electrical equipment if airborne dust levels are high. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Observe occupational exposure limits and minimise the risk of inhalation of dust. 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 rubber - 0.6 mm coating thickness.
Neoprene - 0.6 mm coating thickness.
Notice: The selection of a specific glove for an application and duration of use in a workplace should also take in to account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection) potential body reactions to the glove material as well as instructions/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. Material readily decomposes to create hydrochloric acid and dimethyl formamide in the presences of atmospheric moisture. When respiratory protection is required, use a full face model with approved cartridge for organic vapors/acid gases with particulate filtration properties (ABEK2-P2 for concentration up to 5.000 pmm, air powered ABEK3-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. Observe any medical surveillance requirements.

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 Crystalline.

Physical state Solid.

Form Solid.

Colour White.

Odour Acrid. Ammoniacal.

Odour threshold Not available.

pH Not applicable.

Melting point/freezing point 139 - 141 °C (282.2 - 285.8 °F)

Initial boiling point and boiling range Not applicable.

Flash point	> 93.0 °C (> 199.4 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Non combustible.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	1 hPa (20 °C)
Vapour density	Not available.
Relative density	0.756
Solubility(ies)	Reacts with water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
9.2. Other information	
Solubility (other)	Soluble in chloroform.
VOC (Weight %)	5 %

SECTION 10: Stability and reactivity

10.1. Reactivity	Reacts violently with water.
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	Heat, flames and sparks. The product is hygroscopic and will absorb water by contact with the moisture in the air.
10.5. Incompatible materials	Water. Alcohols. Amines. Alkalies.
10.6. Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Hydrogen chloride. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Causes respiratory tract burns.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms	Eye contact: Prolonged contact causes serious eye and tissue damage. Skin contact: Burning pain and severe corrosive skin damage. Inhalation: Aspiration may cause pulmonary oedema and pneumonitis. Ingestion: Can burn mouth, throat, and stomach.

11.1. Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test results
Amide Chloride (CAS Mixture)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	200 - 466 mg/kg

Components	Species	Test results
N,N-Dimethylformamide (CAS 68-12-2)		
Acute		
Dermal		
LD50	Rabbit	1500 mg/kg
Inhalation		
LC50	Rat	9 - 15 mg/l
Oral		
LD50	Rat	2800 mg/kg

Skin corrosion/irritation Causes severe skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory sensitisation No data available.

Skin sensitisation No data available.

Germ cell mutagenicity No data available.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

N,N-Dimethylformamide (CAS 68-12-2) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity May damage the unborn child.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard No data available.

Mixture versus substance information Not available.

Other information No data available.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability N,N-Dimethylformamide: BOD5 = 0.9 mg.

12.3. Bioaccumulative potential The product is not bioaccumulating. N,N-Dimethylformamide: BCF 0.3-1.2 (fish, 56 days @ 25 °C).

Partition coefficient n-octanol/water (log Kow)

N,N-Dimethylformamide (CAS 68-12-2) -1.01

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Water reactive material.

Mobility in general Reacts with water and forms dimethylformamide and hydrochloric acid.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects None known.

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.

SECTION 14: Transport information

ADR

14.1. UN number UN2923

14.2. UN proper shipping name	CORROSIVE SOLID, TOXIC, N.O.S. (Chloro-N,N-dimethylformiminium chloride)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8 +6.1
Hazard No. (ADR)	86
Tunnel restriction code	E
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN2923
14.2. UN proper shipping name	Corrosive solid, toxic, n.o.s. (Chloro-N,N-dimethylformiminium chloride)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8+6.1
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN2923
14.2. UN proper shipping name	Corrosive solid, n.o.s. (Chloro-N,N-dimethylformiminium chloride)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8+6.1
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN2923
14.2. UN proper shipping name	Corrosive solid, toxic, n.o.s. (Chloro-N,N-dimethylformiminium chloride)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8 + 6.1
14.4. Packing group	II
14.5. Environmental hazards	No
ERG Code	8P
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN2923
14.2. UN proper shipping name	CORROSIVE SOLID, TOXIC, N.O.S. (Chloro-N,N-dimethylformiminium chloride)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8 + 6.1
14.4. Packing group	II
14.5. Environmental hazards	
Marine pollutant	No
EmS	F-A, S-B
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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

Not applicable. This product is a solid. Therefore, bulk transport is governed by IMSBC code.

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

Not listed.

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

Not listed.

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

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 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

Not listed.

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

N,N-Dimethylformamide (CAS 68-12-2)

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

Chloro-N,N-dimethylformiminium chloride (CAS 3724-43-4)
N,N-Dimethylformamide (CAS 68-12-2)

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

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Chloro-N,N-dimethylformiminium chloride (CAS 3724-43-4)
N,N-Dimethylformamide (CAS 68-12-2)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Chloro-N,N-dimethylformiminium chloride (CAS 3724-43-4)
N,N-Dimethylformamide (CAS 68-12-2)

Directive 94/33/EC on the protection of young people at work

Chloro-N,N-dimethylformiminium chloride (CAS 3724-43-4)
N,N-Dimethylformamide (CAS 68-12-2)

Other regulations

Pregnant women should not work with the product, if there is the least risk of exposure. Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 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%. LC50: Lethal Concentration, 50%.
References	ESIS (European chemical Substances Information System) HSDB® - Hazardous Substances Data Bank International Chemical Safety Cards (ICSC) GESTIS Substance Database
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 statements or R-phrases and H-statements under Sections 2 to 15	R14 Reacts violently with water. R20/21 Harmful by inhalation and in contact with skin. R22 Harmful if swallowed. R35 Causes severe burns. R36 Irritating to eyes. R61 May cause harm to the unborn child. H226 Flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H360D May damage the unborn child.
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.