Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

Printing date: August 22, 2016 Revision: August 22, 2016

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

· 1.1 Product identifier

· **Trade name: ODV™ Duquenois-Levine Reagent 1st Ampoule**

· **Article number:** 908 (1006324), 7608 (1006035)
· **Product code:**

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

No further relevant information available.

· 1.3 Details of the supplier of the Safety Data Sheet

· **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200

· 1.4 Emergency telephone number:

ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).

Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Eye Irrit. 2 H319 Causes serious eye irritation.
Carc. 2 H351 Suspected of causing cancer.

· **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

· 2.2 Label elements

· **Labelling according to Regulation (EC) No 1272/2008**
The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).
The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger
· **Hazard-determining components of labelling:**
acetaldehyde

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(Cont'd. from page 1)

· **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.

· **Precautionary statements**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P233	Keep container tightly closed.
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.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *1
Fire = 3
Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Components:**

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Trade name: ODV™ Duquenois-Levine Reagent 1st Ampoule

(Cont'd. from page 2)

CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 Reg.nr.: 01-2119457610-43-XXXX	ethanol Flam. Liq. 2, H225 Eye Irrit. 2, H319	50-100%
CAS: 75-07-0 EINECS: 200-836-8 Index number: 605-003-00-6	acetaldehyde Flam. Liq. 1, H224 Carc. 2, H351 Eye Irrit. 2, H319; STOT SE 3, H335	1-5%
CAS: 121-33-5 EINECS: 204-465-2	vanillin Eye Irrit. 2, H319	1-5%

· **Additional information:**
For the wording of the listed Hazard Statements refer to section 16.
For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
· **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
· **4.2 Most important symptoms and effects, both acute and delayed**
Headache
Irritant to eyes.
Slight irritant effect on skin and mucous membranes.
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.
Dizziness
Disorientation
Unconsciousness
· **Hazards:**
Harmful if swallowed.
Danger of disturbed cardiac rhythm.

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Safety Data Sheet
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Trade name: ODV™ Duquenois-Levine Reagent 1st Ampoule

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Danger of convulsion.
Suspected of causing cancer.

· **4.3 Indication of any immediate medical attention and special treatment needed**
Monitor circulation, possible shock treatment.
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** None.
· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information:**
Eliminate all ignition sources if safe to do so.
Cool endangered receptacles with water spray.
Use large quantities of foam as it is partially destroyed by the product.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources.
Protect from heat.
· **6.2 Environmental precautions**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
· **6.3 Methods and material for containment and cleaning up**
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to section 13.
· **6.4 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.

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Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Flammable gas-air mixtures may form in empty receptacles.
Fumes can combine with air to form an explosive mixture.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Provide ventilation for receptacles.
Avoid storage near extreme heat, ignition sources or open flame.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidising agents.
Do not store together with acids.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Keep container tightly sealed.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
64-17-5 ethanol	
PEL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m³, 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1,900 mg/m³, 1,000 ppm
75-07-0 acetaldehyde	
PEL (USA)	Long-term value: 360 mg/m³, 200 ppm
REL (USA)	See Pocket Guide Apps. A and C
TLV (USA)	Ceiling limit: 45 mg/m³, 25 ppm
EL (Canada)	Ceiling limit: 25 ppm IARC 2B

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Safety Data Sheet
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Trade name: ODV™ Duquenois-Levine Reagent 1st Ampoule

(Cont'd. from page 5)

EV (Canada)	Ceiling limit: 25 ppm
121-33-5 vanillin	
WEEL (USA)	Long-term value: 10 mg/m³

· **DNELs:** No further relevant information available.
· **PNECs:** No further relevant information available.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Wash hands before breaks and at the end of work.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· **Respiratory protection:**
Not required under normal conditions of use.
Use suitable respiratory protective device when aerosol or mist is formed.
Use suitable respiratory protective device when high concentrations are present.
For spills, respiratory protection may be advisable.
· **Protection of hands:**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the 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 can not 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 found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**


Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment:**
No further relevant information available.
· **Risk management measures:**
See Section 7 for additional information.

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No further relevant information available.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **Appearance**	
Form:	Liquid
Colour:	Colourless
· **Odour:**	Alcohol-like
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	78 °C (172 °F)
· **Flash point:**	13 °C (55 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto/Self-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
· **Explosion limits**	
Lower:	3,5 Vol %
Upper:	15,0 Vol %
· **Vapour pressure at 20 °C (68 °F):**	59 hPa (44 mm Hg)
· **Density at 20 °C (68 °F):**	0,8 g/cm³ (6,676 lbs/gal)
· **Relative density:**	Not determined.
· **Vapour density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with water:**	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

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(Cont'd. from page 7)

· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** Keep away from heat and direct sunlight.
· **10.3 Possibility of hazardous reactions**
Flammable.
Reacts violently with oxidising agents.
Used empty containers may contain product gases which form explosive mixtures with air.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
Toxic fumes may be released if heated above the decomposition point.
· **10.4 Conditions to avoid**
Keep ignition sources away - Do not smoke.
Store away from oxidising agents.
Keep away from heat and direct sunlight.
· **10.5 Incompatible materials** No further relevant information available.
· **10.6 Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
64-17-5 ethanol		
Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4h	20000 mg/l (rat)
75-07-0 acetaldehyde		
Oral	LD50	661 mg/kg (rat)
Inhalative	LC50/4h	37 mg/l (rat)
121-33-5 vanillin		
Oral	LD50	3300 mg/kg (rat)

· **Primary irritant effect**
· **Skin corrosion/irritation:** Slight irritant effect on skin and mucous membranes.
· **Serious eye damage/irritation:**
Causes serious eye irritation.
· **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

· **Carcinogenic categories**

· **NTP (National Toxicology Program):**		
75-07-0	acetaldehyde	R

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

· **Acute effects (acute toxicity, irritation and corrosivity):** Irritating to eyes.
· **Repeated dose toxicity:** Repeated exposure may cause skin dryness or cracking.

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· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:**
Suspected of causing cancer.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Biodegradable
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Due to available data on eliminability/decomposition and bioaccumulation potential, a prolonged damage of the environment is unlikely.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

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SECTION 14: Transport information

· **14.1 UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1170
· **14.2 UN proper shipping name**	
· **DOT**	Ethanol solutions
· **ADR**	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
· **IMDG**	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
· **IATA**	ETHANOL SOLUTION
· **14.3 Transport hazard class(es)**	
· **DOT**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **ADR**	

· **Class**	3 (F1) Flammable liquids.
· **Label**	3
· **IMDG, IATA**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Danger code (Kemler):**	33
· **EMS Number:**	F-E,S-E
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

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· **Transport/Additional information:**

· **ADR**
· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
· **Transport category** 2
· **Tunnel restriction code** D/E

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

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

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

· **Section 313 (Specific toxic chemical listings):**

75-07-0	acetaldehyde

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

75-07-0	acetaldehyde

· **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:**
Ethanol - listing refers specifically to alcoholic beverage consumption and is not applicable for product.

64-17-5	ethanol

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

75-07-0	acetaldehyde	B2

· **IARC (International Agency for Research on Cancer)**

64-17-5	ethanol	1

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75-07-0	acetaldehyde	1

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

75-07-0	acetaldehyde

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **National regulations:**

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

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

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
LDLo: Lowest Lethal Dose Observed
Flam. Liq. 1: Flammable liquids – Category 1
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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· **Sources**

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

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

· **1.1 Product identifier**

· **Trade name: ODV Duquenois-Levine Reagent 2nd Ampoule**

· **Article number:** 908 (1006324), 7608 (1006035)

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **1.3 Details of the supplier of the Safety Data Sheet**

· **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200

· **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

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

· **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
STOT SE 3	H335	May cause respiratory irritation.

· **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**
The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).
The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**

GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
hydrochloric acid

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Trade name: ODV Duquenois-Levine Reagent 2nd Ampoule

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· **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
· **Precautionary statements**

P260	Do not breathe mist.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P234	Keep only in original container.
P271	Use only outdoors or in a well-ventilated area.
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.
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.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **Components:**

CAS: 7647-01-0 EINECS: 231-595-7 Index number: 017-002-00-2	hydrochloric acid Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318 STOT SE 3, H335	25-50%

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· **Additional information:**
For the wording of the listed Hazard Statements refer to section 16.
For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
Seek immediate medical help for blistering or open wounds.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
· **4.2 Most important symptoms and effects, both acute and delayed**
Coughing
Breathing difficulty
Gastric or intestinal disorders.
Nausea
Strong caustic effect on skin and mucous membranes.
· **Hazards:**
Danger of gastric perforation.
Danger of impaired breathing.
Causes serious eye damage.
May cause respiratory irritation.
May be harmful if inhaled.
· **4.3 Indication of any immediate medical attention and special treatment needed**
If necessary oxygen respiration treatment.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** None.
· **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.

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Wear fully protective suit.

· **Additional information:** No further relevant information available.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up**
Use limestone to neutralize and absorb spill.
Clean the affected area carefully; suitable cleaners are:
Warm water
Dispose contaminated material as waste according to section 13.

· **6.4 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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Use only in well ventilated areas.
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.

· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

· **Information about storage in one common storage facility:**
Store away from oxidising agents.
Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).
Store away from metals.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**	
7647-01-0 hydrochloric acid	
IOELV (EU)	Short-term value: 15 mg/m³, 10 ppm Long-term value: 8 mg/m³, 5 ppm
PEL (USA)	Short-term value: C 7 mg/m³, C 5 ppm
REL (USA)	Short-term value: C 7 mg/m³, C 5 ppm
TLV (USA)	Short-term value: C 2,98 mg/m³, C 2 ppm
EL (Canada)	Short-term value: C 2 ppm

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**
Not necessary if room is well-ventilated.
Use suitable respiratory protective device when aerosol or mist is formed.
For spills, respiratory protection may be advisable.

· **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.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**
Sensibilisation by the components in the glove materials is possible.
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 can not 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 found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR

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Neoprene gloves
PVC gloves
Natural rubber, NR
· **Not suitable are gloves made of the following materials:**
PVA gloves
Leather gloves
· **Eye protection:**
Contact lenses should not be worn.


Safety glasses

· **Body protection:** Acid resistant protective clothing
· **Limitation and supervision of exposure into the environment:**
No further relevant information available.
· **Risk management measures:** No further relevant information available.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· **Appearance**	
Form:	Liquid
Colour:	Colourless
· **Odour:**	Pungent
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	< 1
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	<104 °C (<219 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto/Self-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density at 20 °C (68 °F):**	1,16 g/cm³ (9,68 lbs/gal)
· **Relative density:**	Not determined.
· **Vapour density:**	Not determined.
· **Evaporation rate:**	Not determined.

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· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with alkali (lyes).
Reacts with strong oxidising agents.
Reacts with amines.
Corrosive action on metals.
Reacts with metals forming hydrogen.
· **10.4 Conditions to avoid** Store away from oxidising agents.
· **10.5 Incompatible materials** No further relevant information available.
· **10.6 Hazardous decomposition products**
Chlorine compounds
Hydrogen chloride (HCl)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
7647-01-0 hydrochloric acid		
Oral	LD50	900 mg/kg (rabbit)

· **Primary irritant effect**
· **Skin corrosion/irritation:**
Causes severe skin burns and eye damage.
· **Serious eye damage/irritation:**
Causes serious eye damage.
· **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**		
7647-01-0	hydrochloric acid	3

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

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

· **Acute effects (acute toxicity, irritation and corrosivity):**
May be harmful if inhaled.
Irritating to respiratory system.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:**
May cause respiratory irritation.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** The product contains materials that are harmful to the environment.
· **12.2 Persistence and degradability** A part of the components is biodegradable.
· **12.3 Bioaccumulative potential** Does not accumulate in organisms.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** After neutralisation a reduction of the harming action may be recognised.
· **Additional ecological information:**
· **General notes:**
At present there are no ecotoxicological assessments.
This statement was deduced from the properties of the single components.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Small amounts may be diluted with plenty of water and washed away. Dispose of larger amounts in accordance with Local Authority requirements.
Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water only.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1789
· **14.2 UN proper shipping name**	
· **DOT**	HYDROCHLORIC ACID
· **ADR**	1789 HYDROCHLORIC ACID, solution
· **IMDG, IATA**	HYDROCHLORIC ACID, solution
· **14.3 Transport hazard class(es)**	
· **DOT**	

· **Class**	8 Corrosive substances.
· **Label**	8
· **ADR**	

· **Class**	8 (C1) Corrosive substances.

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· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4 Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Corrosive substances.
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Acids
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Transport category**	2
· **Tunnel restriction code**	E

SECTION 15: Regulatory information

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

· **United States (USA)**

· **SARA**

· **Section 355 (extremely hazardous substances):**	
7647-01-0	hydrochloric acid

· **Section 313 (Specific toxic chemical listings):**	
7647-01-0	hydrochloric acid

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

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· **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.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer)**

7647-01-0	hydrochloric acid	3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL)**
All ingredients are listed.

· **National regulations:**

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**
None of the ingredients are listed.

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

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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

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LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
LDLo: Lowest Lethal Dose Observed
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

· **1.1 Product identifier**

· **Trade name: ODV Duquenois-Levine Reagent 3rd Ampoule**

· **Article number:** 908 (1006324), 7608 (1006035)
· **CAS number:**
67-66-3
· **EC number:**
200-663-8
· **Index number:**
602-006-00-4
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **1.3 Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200

· **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361d.
The following classifications are applicable only to the general GHS regulations and not the specific CLP regulation: H361.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 3	H331	Toxic if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361d	Suspected of damaging the unborn child.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 1	H372-H373	Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

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· **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

· 2.2 Label elements

· **Labelling according to Regulation (EC) No 1272/2008**
The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).
The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**

GHS06 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
trichloromethane

· **Hazard statements**
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361d.
H361 Suspected of damaging fertility or the unborn child.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H336 May cause drowsiness or dizziness.
H372-H373 Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

· **Precautionary statements**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.

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P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**
For use in industrial installations only.
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *3
Fire = 0
Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
67-66-3 trichloromethane
· **Identification number(s)**
· **EC number:** 200-663-8
· **Index number:** 602-006-00-4

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.
· **After skin contact:**
Immediately remove any clothing soiled by the product.

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Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
· **4.2 Most important symptoms and effects, both acute and delayed**
Breathing difficulty
Coughing
May cause respiratory irritation.
Irritant to skin and mucous membranes.
Disorientation
Unconsciousness
· **Hazards:**
Toxic if inhaled.
Harmful if swallowed.
Danger of cerebral oedema.
Danger of convulsion.
Danger of impaired breathing.
Limited evidence of a carcinogenic effect.
Danger of serious damage to health by prolonged exposure.
Vapours may cause drowsiness and dizziness.
Causes damage to organs through prolonged or repeated exposure.
· **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed, gastric irrigation with added, activated carbon.
May produce a hepatotoxic / neurotoxic effect.
If necessary oxygen respiration treatment.
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** None.
· **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
Formation of toxic gases is possible during heating or in case of fire.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information:** No further relevant information available.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
For large spills, wear protective clothing.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
· **6.2 Environmental precautions** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to section 13.
· **6.4 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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Use only in well ventilated areas.
Keep away from heat and direct sunlight.
Avoid splashes or spray in enclosed areas.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidising agents.
Store away from metals.
· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
Not required.

67-66-3 trichloromethane	
IOELV (EU)	Long-term value: 10 mg/m³, 2 ppm Skin
PEL (USA)	Ceiling limit: 240 mg/m³, 50 ppm

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REL (USA)	Short-term value: 9,78* mg/m³, 2* ppm *60-min; See Pocket Guide App. A
TLV (USA)	Long-term value: 49 mg/m³, 10 ppm
EL (Canada)	Long-term value: 2 ppm IARC 2B; R
EV (Canada)	Long-term value: 49 mg/m³, 10 ppm

· **DNELs:** No further relevant information available.
· **PNECs:** No further relevant information available.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
· **Respiratory protection:**
Not required under normal conditions of use.
Use suitable respiratory protective device when aerosol or mist is formed.
Use suitable respiratory protective device in case of insufficient ventilation.
For spills, respiratory protection may be advisable.
· **Protection of hands:**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the 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.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**


Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment:**
No further relevant information available.
· **Risk management measures:**
See Section 7 for additional information.

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No further relevant information available.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **Appearance**	
Form:	Liquid
Colour:	Colourless
· **Odour:**	Ether-like
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	-63 °C (-81 °F)
· **Boiling point/Boiling range:**	62 °C (144 °F)
· **Flash point:**	>94 °C (>201 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto/Self-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C (68 °F):**	210 hPa (158 mm Hg)
· **Density at 20 °C (68 °F):**	1,48 g/cm³ (12,351 lbs/gal)
· **Relative density:**	Not determined.
· **Vapour density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with water at 20 °C (68 °F):**	8 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

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· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions**
Reacts with strong oxidising agents.
Reacts with certain metals.
Reacts with strong alkali.
Toxic fumes may be released if heated above the decomposition point.
· **10.4 Conditions to avoid**
Store away from oxidising agents.
Keep away from heat and direct sunlight.
· **10.5 Incompatible materials** No further relevant information available.
· **10.6 Hazardous decomposition products** Chlorine compounds

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**
Harmful if swallowed.
Toxic if inhaled.

· **LD/LC50 values relevant for classification:**		
67-66-3 trichloromethane		
Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

· **Primary irritant effect**
· **Skin corrosion/irritation:**
Causes skin irritation.
· **Serious eye damage/irritation:**
Causes serious eye irritation.
· **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

· **Carcinogenic categories**

· **NTP (National Toxicology Program):**		
67-66-3	trichloromethane	R

· **OSHA-Ca (Occupational Safety & Health Administration):**
Substance is not listed.

· **Acute effects (acute toxicity, irritation and corrosivity):**
Vapours have narcotic effect.
Harmful if swallowed.
Toxic if inhaled.
· **Repeated dose toxicity:**
May cause damage to organs through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.
Repeated exposure may cause skin dryness or cracking.
May cause neurotoxic effects.

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· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:**
Suspected of causing cancer.
· **Reproductive toxicity:**
Suspected of damaging the unborn child.
· **STOT-single exposure:**
May cause drowsiness or dizziness.
· **STOT-repeated exposure:**
Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Not easily biodegradable.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
The material is harmful to the environment.
Avoid transfer into the environment.
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

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· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**
· **DOT, ADR, IMDG, IATA** UN1888

· **14.2 UN proper shipping name**
· **DOT, IMDG, IATA** CHLOROFORM
· **ADR** 1888 CHLOROFORM

· **14.3 Transport hazard class(es)**

· **DOT**

· **Class** 6.1 Toxic substances.
· **Label** 6.1

· **ADR**

· **Class** 6.1 (T1) Toxic substances.
· **Label** 6.1

· **IMDG, IATA**

· **Class** 6.1 Toxic substances.
· **Label** 6.1

· **14.4 Packing group**
· **DOT, ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**
· **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Toxic substances.
· **Danger code (Kemler):** 60
· **EMS Number:** F-A,S-A

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· **Segregation groups**	Liquid halogenated hydrocarbons
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 355 (extremely hazardous substances):**
Substance is listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is listed.

· **TSCA (Toxic Substances Control Act):**
Substance is listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**
Substance is listed.

· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

67-66-3	trichloromethane	B2, L, NL

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· **IARC (International Agency for Research on Cancer)**

67-66-3	trichloromethane	2B

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

Substance is listed.

· **Canadian Domestic Substances List (DSL)**

Substance is listed.

· **National regulations:**

· **Water hazard class:** Water hazard class 3 (Assessment by list): extremely hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

Substance is not listed.

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

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
LDLo: Lowest Lethal Dose Observed
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**

SDS Prepared by:
ChemTel Inc.
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