Safety Data Sheet
acc. to OSHA HCS

Printing date 06/30/2014 Reviewed on 02/20/2014

* 1 Identification

· **Product identifier**

· **Trade name: HydroSeal® Activator/Cleaner**
· **CAS Number:**
141-78-6
· **EC number:**
205-500-4
· **Index number:**
607-022-00-5
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Sector of Use**
Relevant identified uses of the mixture
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU19 Building and construction work
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against
SU21 Consumer uses: Private households / general public / consumers
· **Application of the substance / the mixture** Cleaning agent/ Cleaner

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**

American Hydrotech, Inc.
303 East Ohio Street
Chicago, IL 60611
USA
Tel: 312 337-4998
Fax: 312 661-0731
www.hydrotechusa.com

· **Information department:** Division product safety
· **Emergency telephone number:** Tel: 1-312-337-4998

* 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Highly flammable

Highly flammable.

Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
· **Information concerning particular hazards for human and environment:**
Has a narcotizing effect.
In the gas volume of sealed packages vapours of flammable solvents, especially at action of heat, may accumulate. Keep away fire and ignition sources.
Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

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· **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

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

GHS02 GHS07

· **Signal word** Danger
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Health = 0
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
· **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).

3 Composition/information on ingredients

· **Chemical characterization: Substances** Ethylacetat (Essigsäureethylester) C4H8O2
· **CAS No. Description**
141-78-6 ethyl acetate
· **Identification number(s)**
· **EC number:** 205-500-4
· **Index number:** 607-022-00-5
· **Additonal information:** * Siehe Abschnitt 15

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out of danger area and lay down.

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Do not leave affected persons unattended.
Personal protection for the First Aider.

· **After inhalation:**
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Possible after prolonged skin contact defatting. Skin cream after prolonged skin contact.
If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**
Mouth rinse.
Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed**
Headache
Dizziness
Dizziness
Unconsciousness
Nausea
Gastric or intestinal disorders

· **Danger**
Danger of pulmonary edema.
After swallowing and subsequent vomiting, aspiration into the lungs, which can lead to chemical Pneunomie or suffocation.

· **Indication of any immediate medical attention and special treatment needed**
Later observation for pneumonia and pulmonary edema.
May cause drowsiness and dizziness.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
Because of the high vapor pressure, temperature increase risk of bursting of the vessels.
In case of fire, the following can be released:
Carbon monoxide (CO)
CO_2

· **Advice for firefighters**

· **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiatory protective device.

· **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
If without risk, remove containers from the danger zone.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation

(Contd. on page 4)

(Contd. of page 3)

Keep away from ignition sources

Avoid static electricity.
Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Suppress gases/fumes/haze with water spray.
Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Dispose of the collected material according to regulations.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

· **Precautions for safe handling**
Keep receptacles tightly sealed.
Prolonged or repeated contact with skin.
Ensure good ventilation/exhaustion at the workplace.
Avoid splashes or spray in enclosed areas.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

· **Information about protection against explosions and fires:**
Highly volatile, flammable constituents are released during processing.
Keep ignition sources away - Do not smoke.
Fumes can combine with air to form an explosive mixture.
Only explosion-proof equipment.
Use explosion-proof apparatus / fittings and spark-proof tools.
Protect against electrostatic charges.
Do not spray on a naked flame or any incandescent material.
Handle only outside or in explosion protected rooms.
Protect from heat.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Laws and regulations for storage and handling of water hazarding.
Regulations for storage of flammable liquids.
Store in a cool location.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
For gaskets and sealants could use: PTFE.
Suitable storage materials are: Stainless carbon steel, stainless steel.
Keep receptacle tightly sealed.

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

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* 8 Exposure controls/personal protection

· **Additional information about design of technical systems:**
Ensure adequate ventilation at the workplace.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
141-78-6 ethyl acetate (99.999-1%)	
PEL	Long-term value: 1400 mg/m³, 400 ppm
REL	Long-term value: 1400 mg/m³, 400 ppm
TLV	Long-term value: 1440 mg/m³, 400 ppm

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

· **Exposure controls** Ensure adequate ventilation at the workplace.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Wash hands before breaks and at the end of work.
Use skin protection cream for skin protection.
Do not carry product impregnated cleaning cloths in trouser pockets.
Do not eat, drink, smoke or sniff while working.
· **Breathing equipment:**
Short term filter device:
Filter A/P2
· **Protection of hands:**
Solvent resistant gloves
Check protective gloves prior to each use for their proper condition.
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
Solvent resistant gloves.
Check the permeability prior to each anewed use of the glove.
To avoid skin problems reduce the wearing of gloves to the required minimum.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
· **Material of gloves**
Butyl rubber gloves - butyl
Recommended thickness of the material: ≥ 0.7 mm
e.g. KCL BUTOJET
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**
Our Recommendation is mainly on a one-time use as a short-term protection Liquid splashes. For other applications, you should contact a glove manufacturer.
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
At the first sign of wear protective gloves should be replaced.
Permeation / Breakthrough time: ≥ 120 min (EN 374)
· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**
Butyl rubber, BR
· **For the permanent contact gloves made of the following materials are suitable:** Butyl rubber, BR
· **Not suitable are gloves made of the following materials:**
Fluorocarbon rubber (Viton)
Natural rubber, NR
Chloroprene rubber, CR
Nitrile rubber, NBR
PVC gloves
Leather gloves

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:**
Solvent resistant protective clothing

Protective work clothing

· **Limitation and supervision of exposure into the environment**
Not discharge into drains / surface water bodies / groundwater.

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Colorless
· **Odor:**	Fruit-like
· **Odour threshold:**	0.006 - 0.686 mg/l (gas in air)
· **pH-value:**	Not determinable.
· **Change in condition**	
Melting point/Melting range:	-84 °C (DIN 51751)
Boiling point/Boiling range:	76 °C (DIN 53757)
· **Flash point:**	-4 °C (DIN 51755)
· **Flammability (solid, gaseous):**	No data available.
· **Ignition temperature:**	≥425 °C (DIN 51794)
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	2.1 Vol %
Upper:	11.5 Vol %
· **Oxidizing properties**	not classified as oxidizing
· **Vapor pressure at 20 °C:**	~100 hPa
· **Density at 20 °C:**	0.9 g/cm³ (DIN 51757)
· **Evaporation rate**	4,5 (n-BuAc = 1)
· **Solubility in / Miscibility with**	
Water at 20 °C:	~80 g/l Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	0,66 - 0,68 log POW
· **Viscosity:**	
Dynamic at 20 °C:	1 mPas (EN ISO 2555)
Kinematic:	No data available.
Organic solvents:	100.0 %
VOC content:	100.0 %

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· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** see Section 10.2
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
At atmospheric pressure distilled without decomposition.
Avoid: heat, flames, sparks.
No decomposition if used according to specifications.
Shock, avoid friction, heat, sparks, static electricity.
· **Possibility of hazardous reactions**
Used empty containers may contain product gases which form explosive mixtures with air.
Develops readily flammable gases / fumes.
Danger of receptacles bursting because of high vapor pressure if heated.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Highly oxidizing agents
strong acids
Alkalis (bases, alkalis)
metals
· **Hazardous decomposition products:** Carbon monoxide and carbon dioxide
· **Additional information:**
Emergency procedures will vary depending on individual circumstances. The customer should have a contingency plan to the workplace may be present.

*11 Toxicological information

· **Information on toxicological effects** There were no toxicological findings to the mixture.
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
141-78-6 ethyl acetate		
Oral	LD50	4934 mg/kg (rabbit) (OECD 401)
Dermal	LC50	>18000 mg/kg (rat)
	LD50	> 18000 mg/kg (rabbit)
Inhalative	LC50/4h	56 mg/l (rat)

· **Specific symptoms in biological assay:**
Mice that were exposed for 7 days 6 hours per 4300 ppm developed, slight blood changes, and loss of appetite. Rabbits that were exposed for 40 days one hour per day 4400 ppm, developed secondary anemia, blood effects and minor Milzerweiterung. There was no evidence of carcinogenicity in mice were observed.
· **Primary irritant effect:**
· **on the skin:** Prolonged or repeated skin contact may defat the skin and result in skin irritation.
· **on the eye:** Short-term, reversible irritation.
· **Sensitization:** No sensitizing effects known.
· **Other information (about experimental toxicology):** Ames test: negative
· **Subacute to chronic toxicity:**

In vitro mutagenicity:
Ames test: negative - with and without metabolic activation method: OECD 471
Cytogenicity assay in Chinese hamster cells: negative - with and without metabolic activation - Method: OECD 473
Mouse lymphoma cell gene mutation: negative - with and without metabolic activation - Method: OECD 476 (Reference substance: Ethanol)

in vivo Mutagenicity:

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Mammalian Erythrocyte Micronucleus test in Chinese hamster and male mice: negative - Method: OECD 474

Carcinogenic effects: No evidence of carcinogenicity, reproductive toxicity: No effects on fertility (Reference substance: Ethanol)
Routes of exposure oral gavage (species mouse, Method OECD 416)
NOAEL: 26400 mg / kg bw / day (for ethyl acetate on a molar basis)
Rat species, type of study Two-generation study

Development Damaging effects: No teratogenetic, maternally or develomental effects (Reference substance: Ethanol)
Rat species, method OECD 414, NOAEC: 73,300 m³ mg / Type of study Prenatal Developmental

Repeated exposure: No negative impact.
Routes of exposure oral gavage: rat species, method EPA OTS 795.2600, NOAEL: 900 mg / kg bw / day

Repeated exposure: No negative impact
Inhalation routes of exposure: rat species, method EPA OTS 798.2450, NOEC 1.28 mg / l, 90-day inhalation study
subchronic toxicity study

· **Additional toxicological information:**
Inhalation of concentrated vapors may lead to anesthesia-like conditions and headache, dizziness, etc.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
Substance is not listed.

· **NTP (National Toxicology Program)**
Substance is not listed.

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

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
141-78-6 ethyl acetate	
EC50/24h	3090 mg/l (daphnia magna) (DIN 38412, Part 11)
EC50/48h	164 mg/l (daphnia magna)
	3300 mg/l (scenedesmus subspicatus)
LC50/96h	230 mg/l (fish)
	455 mg/l (pimephales promelas)
NOEC/21d	2.4 mg/l (daphnia magna)
NOEC/72h	>100 mg/l (Alge (Desmodesmus subspicatus)) (OECD 201)

· **Persistence and degradability** Easily biodegradable
· **Other information:**
DOC: > 70 %
Biodegradability 100% in 28 days (OECD 301 D)
· **Bioaccumulative potential**
log P (o/w): 0,66 - 0,68
Due to the distribution coefficient n-octanol/water an appreciable enrichment (bioaccumulation) in organisms is not to be expected (log P (o / w): 1-3).
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **CSB-value:** 1816 mg O_2/g

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· **BSB5-value:** 293 mg O_2/g
· **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Do not allow product to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
· **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
Hazardous waste according to Waste Catalogue (EWC). If recycling is not possible, waste must be in compliance with local regulations to be removed.
· **Recommendation:**
Must be specially treated adhering to official regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Waste disposal key:**
Please get in touch to arrange the waste code contact with the disposal of your choice.

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

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1173
· **UN proper shipping name**	
· **DOT**	Ethyl acetate
· **ADR**	1173 Ethyl acetate
· **IMDG, IATA**	ETHYL ACETATE
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **ADR, IMDG, IATA**	

· **Class**	3 Flammable liquids
· **Label**	3

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· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids
· **Danger code (Kemler):**	33
· **EMS Number:**	F-E,S-D
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	UN1173, Ethyl acetate, 3, II

*15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is not listed.

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

· **Proposition 65**

· **Chemicals known to cause cancer:**
Substance is not 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 not listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**
Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

· **GHS label elements** GHS label elements

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

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

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16 Other information

These figures relate to the product as delivered.
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.

· **Training hints**
Teaching about hazards and precautions to hand the operating instructions (Technical Rule 555). Instruction must take place before the start of employment and at least annually thereafter.

· **Department issuing MSDS:** Division product safety
· **Date of preparation / last revision** 06/30/2014 / 14
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (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
ACGIH: American Conference of Governmental Industrial Hygienists
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
· **Sources**
www.gestis.de
www.echa.eu
logkow.cisti.nrc.ca
· *** Data compared to the previous version altered.**