DIACETONE ALCOOL

Safety Data Sheet

according to Regulation (EU) 2015/830 Version: 02.00

Date of issue: 12/4/2017 Revision date: 12/4/2017 Supersedes: 7/7/2015 Code: 4300

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	DIACETONE ALCOOL
Chemical name	:	4-hydroxy-4-methylpentan-2-one, diacetone alcohol
EC Index-No.	:	603-016-00-1
EC-No.	:	204-626-7
CAS-No.	:	123-42-2
REACH registration No	:	01-2119473975-21-
Product code	:	4300
Type of product	:	Pure substance
Formula	:	C6H12O2
Synonyms	:	Diacetone / 4-Hydroxy-4-methyl pentan-2-one / 4-Hydroxy-4-methyl-2-pentanone / 4-Hydroxy-4-methylpentanone-2 / Pentan-2-one, 4-hydroxy-4-methyl- / 2-Pentanone, 4-hydroxy-4-methyl- / 4-Hydroxy-4-methylpentan-2-one / DIACETONE ALCOHOL / 4-Hydroxy-4-methyl-pentane-2-on / 4-Hydroxy-4-methyl-2pentanone

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	:	Industrial For professional use only
Use of the substance/mixture	:	Solvent Chemical intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Gamma Chimica SpA
Via Bergamo 8
20020 Lainate (MI) ITALY
T +39 029317901 Fax +39 0293179055
msds@gammachimica.it - www.gammachimica.it

1.4. Emergency telephone number

Emergency number : Hospital of Milan Niguarda 24h/24h: +39 0266101029

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 3	H226
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

Specific concentration limits:

(C >= 10)	Eye Irrit. 2, H319

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause respiratory irritation. Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS02 GHS07

Signal word (CLP) : Warning

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear eye protection, protective clothing, protective gloves.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO2), dry extinguishing powder, Water spray to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
4-hydroxy-4-methylpentan-2-one, diacetone alcohol	(CAS-No.) 123-42-2 (EC-No.) 204-626-7 (EC Index-No.) 603-016-00-1 (REACH-no) 01-2119473975-21-	>= 99	Flam. Liq. 3, H226 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limits:

Name	Product identifier	Specific concentration limits
4-hydroxy-4-methylpentan-2-one, diacetone alcohol	(CAS-No.) 123-42-2 (EC-No.) 204-626-7 (EC Index-No.) 603-016-00-1 (REACH-no) 01-2119473975-21-	(C >= 10) Eye Irrit. 2, H319

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the SDS where possible). Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Take off immediately all contaminated clothing. Rinse skin with water/shower.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Consult an eye specialist. Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Nausea. Headache. Coughing. Dry/sore throat. Narcosis. Disturbances of consciousness.

Symptoms/effects after skin contact : Slight irritation. Not irritating.

Symptoms/effects after eye contact : Irritation of the eye tissue. Redness of the eye tissue. Causes serious eye irritation. Eye irritation.

Symptoms/effects after ingestion : Vomiting. Abdominal pain.

Chronic symptoms : No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Polyvalent foam. Alcohol-resistant foam. Polymer foam. BC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD: Flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. Reactions involving a fire hazard: see "Reactivity Hazard". Flammable liquid and vapour.

Explosion hazard : DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapour-air mixture.

Hazardous decomposition products in case of fire : Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Safety glasses. Protective clothing.
Emergency procedures	:	Ventilate spillage area. Mark the danger area. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Heating: dilute combustible gas/vapour with water curtain.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or kieselguhr. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling	:	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
Hygiene measures	:	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, Ventilation equipment.
Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Ignition sources, Incompatible materials. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight. Heat sources.
Heat and ignition sources	:	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage	:	KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. metals. alcohols. amines. peroxides.

Storage area	:	Store in a cool area. Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Limited time of storage. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: steel. stainless steel. carbon steel. aluminium. iron. glass. MATERIAL TO AVOID: copper. zinc. bronze. lead. plastics.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)		
Austria	MAK (mg/m³)	240 mg/m³
Austria	MAK (ppm)	50 ppm
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	241 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	50 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	362 mg/m³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	75 ppm
Czech Republic	Expoziční limity (PEL) (mg/m³)	200 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	240 mg/m³
Denmark	Grænseværdie (langvarig) (ppm)	50 ppm
Estonia	OEL TWA (mg/m³)	120 mg/m³
Estonia	OEL TWA (ppm)	25 ppm
Estonia	OEL STEL (mg/m³)	240 mg/m³
Estonia	OEL STEL (ppm)	50 ppm
Finland	HTP-arvo (8h) (mg/m³)	240 mg/m³
Finland	HTP-arvo (8h) (ppm)	50 ppm
Finland	HTP-arvo (15 min)	360 mg/m³
Finland	HTP-arvo (15 min) (ppm)	75 ppm
Germany	Local name	4-Hydroxy-4-methyl-pentan-2-on
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	96 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	20 ppm
Germany	Remark (TRGS 900)	DFG,H
Greece	OEL TWA (mg/m³)	240 mg/m³
Greece	OEL TWA (ppm)	50 ppm
Greece	OEL STEL (mg/m³)	360 mg/m³
Greece	OEL STEL (ppm)	75 ppm
Ireland	OEL (8 hours ref) (mg/m³)	240 mg/m³
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m3)	720 mg/m³ (calculated)
Ireland	OEL (15 min ref) (ppm)	150 ppm (calculated)
Lithuania	IPRV (mg/m³)	120 mg/m³
Lithuania	IPRV (ppm)	25 ppm
Lithuania	TPRV (mg/m³)	240 mg/m³
Lithuania	TPRV (ppm)	50 ppm
Poland	NDS (mg/m³)	240 mg/m³
Portugal	OEL TWA (ppm)	50 ppm
Romania	OEL TWA (mg/m³)	150 mg/m³
Romania	OEL TWA (ppm)	32 ppm
Romania	OEL STEL (mg/m³)	250 mg/m³
Romania	OEL STEL (ppm)	53 ppm

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)		
Slovenia	OEL TWA (mg/m³)	240 mg/m³
Slovenia	OEL TWA (ppm)	50 ppm
Spain	Local name	Diacetona alcohol
Spain	VLA-ED (mg/m³)	241 mg/m³
Spain	VLA-ED (ppm)	50 ppm
Sweden	nivågränsvärde (NVG) (mg/m³)	120 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	25 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	240 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	50 ppm
Norway	Grenseverdier (AN) (mg/m³)	120 mg/m³
Norway	Grenseverdier (AN) (ppm)	25 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	150 mg/m³ (value calculated)
Norway	Grenseverdier (Korttidsverdi) (ppm)	37.5 ppm (value calculated)
Switzerland	MAK (mg/m³)	96 mg/m³
Switzerland	MAK (ppm)	20 ppm
Switzerland	KZGW (mg/m³)	192 mg/m³
Switzerland	KZGW (ppm)	40 ppm
Australia	Local name	Diacetone alcohol
Australia	TWA (mg/m³)	238 mg/m³ Synonym (4-Hydroxy-4-methyl-2pentanone)
Australia	TWA (ppm)	50 ppm Synonym (4-Hydroxy-4-methyl-2pentanone)
Canada (Quebec)	VEMP (mg/m³)	238 mg/m³
Canada (Quebec)	VEMP (ppm)	50 ppm
USA - ACGIH	Local name	Diacetone alcohol
USA - ACGIH	Remark (ACGIH)	URT & eye irr
USA - IDLH	US IDLH (ppm)	1800 ppm (10% LEL)
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	240 mg/m³
USA - NIOSH	NIOSH REL (TWA) (ppm)	50 ppm
USA - OSHA	Local name	(4-Hydroxy-4-methyl-2-pentanone)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	240 mg/m³
USA - OSHA	OSHA PEL (TWA) (ppm)	50 ppm

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	240 mg/m³
Long-term - systemic effects, dermal	840 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	59.2 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	10.4 mg/m³
Long-term - systemic effects, dermal	60 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	2 mg/l
PNEC aqua (marine water)	0.2 mg/l
PNEC aqua (intermittent, freshwater)	1 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	9.06 mg/kg dwt
PNEC sediment (marine water)	0.91 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.63 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Avoid all unnecessary exposure.

Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. neoprene. polyethylene/ethylenevinylalcohol. PVC. GIVE LESS RESISTANCE: PVA. GIVE POOR RESISTANCE: natural rubber. nitrile rubber. viton

Hand protection:

Gloves. Wear protective gloves.

Eye protection:

Safety glasses. Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit. Self-contained breathing apparatus if conc. in air > 0.5 vol %. Wear appropriate mask

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Colorless liquid. Turns yellow on aging.
Molecular mass	:	116.16 g/mol
Colour	:	Colourless. Yellow.
Odour	:	pleasant. Sweet.
Odour threshold	:	0.3 - 1 ppm 1.5 - 5.7 mg/m³
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	-44 °C
Freezing point	:	No data available
Boiling point	:	168 °C (1013 hPa)
Flash point	:	50 °C
Critical temperature	:	334 °C
Auto-ignition temperature	:	643 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable
Vapour pressure	:	1.29 hPa (at 20 °C)
Critical pressure	:	36468 hPa
Relative vapour density at 20 °C	:	4
Relative density	:	0.93 (25 °C)
Relative density of saturated gas/air mixture	:	1
Density	:	931 kg/m³ (25 °C)
Solubility	:	Miscible with water. Soluble in organic solvents. Soluble in ethanol. Soluble in ether. Soluble in chloroform. Water: miscible Ethanol: complete Ether: complete
Log Pow	:	1.9 (Conclusion by analogy, Equivalent or similar to OECD 117)

Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	0.00001 Pa.s (20 °C)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	1.8 - 6.9 vol % 68 - 393 g/m³
Lower explosive limit (LEL)	:	1.8 vol %
Upper explosive limit (UEL)	:	6.9 vol %

9.2. Other information

Specific conductivity	:	16 µS/m
Saturation concentration	:	5.7 g/m³
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

Violent exothermic reaction with (strong) oxidizers. Reacts on exposure to temperature rise with (some) acids: release of highly flammable gases/vapours.

10.2. Chemical stability

Stable under normal conditions. Flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
LD50 oral rat	3002 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male/female, Experimental value)
LD50 dermal rat	> 1875 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rat, Male/female, Experimental value)

Skin corrosion/irritation	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Serious eye damage/irritation	:	Causes serious eye irritation.
Respiratory or skin sensitisation	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Germ cell mutagenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Reproductive toxicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
STOT-single exposure	:	May cause respiratory irritation.
Additional information	:	Based on available data, the classification criteria are not met
STOT-repeated exposure	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met

Aspiration hazard	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
Viscosity, kinematic	0.01074114 mm²/s

Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	:	Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	:	Not harmful to crustacea. Slightly harmful to fishes. Ground water pollutant. Not harmful to algae. Slightly harmful to bacteria.
Acute aquatic toxicity	:	Not classified
Chronic aquatic toxicity	:	Not classified

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Semi-static system, Fresh water, Experimental value)
EC50 Daphnia 1	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)
ErC50 (algae)	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Not established.
Biochemical oxygen demand (BOD)	0.07 g O_2/g substance
Chemical oxygen demand (COD)	2.11 g O_2/g substance
ThOD	2.21 g O_2/g substance
BOD (% of ThOD)	0.03

12.3. Bioaccumulative potential

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
Log Pow	1.9 (Conclusion by analogy, Equivalent or similar to OECD 117)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4). Not established.

12.4. Mobility in soil

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

4-hydroxy-4-methylpentan-2-one, diacetone alcohol (123-42-2)	
Results of PBT assessment	The product does not meet the PBT and vPvB classification criteria

12.6. Other adverse effects

Additional information	:	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	:	LWCA (the Netherlands): KGA category 03.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations	:	Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into drains or the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	:	LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapours are flammable. Flammable vapours may accumulate in the container.
Ecology - waste materials	:	Avoid release to the environment.
European List of Waste (LoW) code	:	15 01 10* - packaging containing residues of or contaminated by dangerous substances 07 01 04* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	:	1148
UN-No. (IMDG)	:	1148
UN-No. (IATA)	:	1148
UN-No. (ADN)	:	1148
UN-No. (RID)	:	1148

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	diacetone alcohol
Proper Shipping Name (IMDG)	:	diacetone alcohol
Proper Shipping Name (IATA)	:	diacetone alcohol
Proper Shipping Name (ADN)	:	DIACETONE ALCOHOL
Proper Shipping Name (RID)	:	diacetone alcohol
Transport document description (ADR)	:	UN 1148 diacetone alcohol, 3, III, (D/E)
Transport document description (IMDG)	:	UN 1148 diacetone alcohol, 3, III
Transport document description (IATA)	:	UN 1148 diacetone alcohol, 3, III
Transport document description (ADN)	:	UN 1148 DIACETONE ALCOHOL, 3, III
Transport document description (RID)	:	UN 1148 diacetone alcohol, 3, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	:	3
Danger labels (ADR)	:	3

:

IMDG

Transport hazard class(es) (IMDG)	:	3
Danger labels (IMDG)	:	3

:

IATA

Transport hazard class(es) (IATA)	:	3
Hazard labels (IATA)	:	3

: 

ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3

: 

RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3

: 

14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

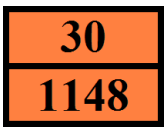
- Overland transport

Transport regulations (ADR) : Subject

Classification code (ADR) : F1

Limited quantities (ADR) : 5l

Hazard identification number (Kemler No.) : 30

Orange plates : 

Tunnel restriction code (ADR) : D/E

EAC code : •2Y

- Transport by sea

Transport regulations (IMDG) : Subject

Special provisions (IMDG) : 223

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

- Air transport

Transport regulations (IATA) : Subject to the provisions

PCA limited quantity max net quantity (IATA) : 10L

CAO max net quantity (IATA) : 220L

Special provisions (IATA) : A3

- Inland waterway transport

Classification code (ADN) : F1
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 0

- Rail transport

Transport regulations (RID) : Subject
Classification code (RID) : F1
Limited quantities (RID) : 5L
Hazard identification number (RID) : 30

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	4-hydroxy-4-methylpentan-2-one, diacetone alcohol
3(a) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	4-hydroxy-4-methylpentan-2-one, diacetone alcohol
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	4-hydroxy-4-methylpentan-2-one, diacetone alcohol
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	4-hydroxy-4-methylpentan-2-one, diacetone alcohol

DIACETONE ALCOOL is not on the REACH Candidate List
DIACETONE ALCOOL is not on the REACH Annex XIV List

VOC content : 100 %

15.1.2. National regulations

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Germany

Reference to AwSV	:	Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 72)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	:	Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)
TA Luft	:	5.2.5 Organic Substances

Netherlands

Waterbezwaarlijkheid	:	11 - Weinig schadelijk voor in het water levende organismen
SZW-lijst van kankerverwekkende stoffen	:	The substance is not listed
SZW-lijst van mutagene stoffen	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	:	The substance is not listed

Denmark

Class for fire hazard	:	Class II-1
Store unit	:	5 liter
Classification remarks	:	R10 <H226;H319;H335>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Data sources	:	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	:	None.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)