



MATERIAL SAFETY DATA SHEET

Revised 31st July 2014

METHYLATED SPIRITS

SECTION 1: IDENTIFICATION OF SUBSTANCE/PREPARATION & COMPANY

1.1 Product Identifier

PRODUCT NAME: COMPLETELY DENATURED ALCOHO (CDA)
Product No: 1014
REACH Registration notes: ALL COMPONENTS HAVE BEEN REGISTERED

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

Identified uses: Manufacture of substance use as an intermediate distribution of substance formulation & (re)packing of substances and mixtures. Uses in coating, cleaning agents, as a fuel. Use as a functional fluid Laboratory agents. Other consumer uses De-icing and anti-icing applications.

Uses advised against: This product is not recommended for any industrial, professional or consumer uses other than those identified above.

1.3 Details of the supplier of the safety data sheet.

Supplier: R.K.& J Jones Ltd
Southery Road,
Feltwell,
Norfolk,
IP26 4EH.
Tel: 01842 828101
Fax: 01842 828171
Contact Person: r.jones@birdbrand.co.uk

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

2.1 Classification of the substance or mixture

Classification (EC 1272/2008) Physical & Chemical Hazards. Flam.Liq.2 – H225
Human Health Eye irrit.2-H319
Environment Not classified
Classification (1999/34/EEC) F;R11

The full text for all R-Phrases and Hazard Statements are Displayed in section 16.

Human health –

May irritate eyes. Splashes may cause serious eye damage. Prolonged skin contact may cause redness and irritation. In high concentrations, vapours may be irritating to the respiratory system. May cause allergic skin disorders in sensitive individuals. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death. See section 11 for additional information on health hazards.

Environment –

Contains a substance which causes risk of hazardous effects to the environment. The product contains volatile, organic compounds which have a photochemical ozone creation potential.

Physical and Chemical Hazards –

The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.

2.2. Label elements

Label in accordance with (EC) No. 1272/2008



Signal Word	Danger	
Hazard Statements	H225 H319	Highly Flammable liquid and vapour Causes serious eye irritation
Precautionary Statements	H501	Dispose of contents/container in accordance with National regulations.
Supplementary Precautionary Statements	P210 P233 P240 P241 P242 P243 P280 P264 P370/378 P303/361/353 P305/351/338 P313 P337 P403/235	Keep away from heat/sparks/open flames/hot surfaces. No smoking Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment Use only non-sparking tools Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye Protection/face protection. Wash contaminated skin thoroughly after handling In case of fire: use foam, carbon dioxide, dry Powder or water fog for extinction. IF ON SKIN (or hair) Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention If eye irritation persists: Store in a well-ventilated place. Keep cool.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: HAZARDS IDENTIFICATION

3.2. Mixtures

ETHANOL		93-95%
CAS-No.: 64-17-5	EC No.: 200-578-6	Reg.no.: 01-2119457610-43
Classification (EC 1272/2008) Flam.Liq.2 - H225 Eye Irrit.2 - H319	Classification (67/548/EEC) F;R11	

ISOPROPANOL		1-5%
CAS-No.: 67-63-0	EC No.: 200-661-7	Reg.no. 01-2119457558-25
Classification (EC 1272/2008) Flam.Liq.2 - H225 Eye Irrit.2 - H319 STOT SE 3 - H336	Classification (67/548/EEC) Xi;R36 F;R11 R67	

METHYL ETHYL KETONE		1-5%
CAS-No.:	EC No.:	
Classification (EC 1272/2008) Flam.Liq.2 - H225 EUH066 Eye Irrit.2 - H319 STOT SE3 - H336	Classification (67/548/EEC) Xi;R36 F;R11 R66,R67	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section

REACH Registration notes ALL COMPONENTS HAVE BEEN REGISTERED

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

CAUTION! First aid personnel must be aware of own risk during rescue! Remove affected person from source of contamination. Keep the affected person warm and at rest. Get prompt medical attention.

Inhalation

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep the affected person warm and at rest. Get prompt medical attention.

Ingestion

Get medical attention immediately! Immediately rinse mouth and drink plenty of water. Call an ambulance. Bring along these instructions. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Skin contact

Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Get medical attention if irritation persists after washing.

Eye contact

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed**General information**

If adverse symptoms develop as described the casualty should be transferred to hospital as soon as possible.

Inhalation

Irritation of nose, throat and airway. Vapours may cause headache, fatigue, dizziness and Nausea. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death.

Ingestion

May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.

Skin contact

Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Eye contact

Irritating and may cause redness and pain. May cause blurred vision and serious eye damage.

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

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5 : FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Extinguishing media

Use: Water spray, fog or mist. Alcohol resistant foam. Carbon dioxide (CO₂). Dry powder Dry chemicals, sand, dolomite etc.

Unsuitable extinguishing media

Nonalcohol resistant foam

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

HIGHLY FLAMMABLE! May explode when heated or when exposed to flames or sparks. Solvent vapours may form explosive mixtures with air. May travel considerable distance to source of ignition and flash back. Vapours are heavier than air and may spread near ground to sources of ignition. May ignite at high temperature. Heat may cause the containers to explode.

Specific hazards

Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember. Containers can burst violently when heated, due to excess pressure build-up.

5.3. Advice for firefighters

Special Fire Fighting Procedures

If possible, fight fire from protected position. Containers close to fire should be removed immediately or cooled with water. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Water spray should be used to cool containers. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Be aware of risk of fire re-starting, and risk of explosion. Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES/SPILLS AND LEAKS

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours and contact with skin and eyes. Eliminate all ignition sources Follow precautions for safe handling described in this safety data sheet. Wear protective clothing as described in Section 8 of this safety data sheet. In case of inadequate ventilation, use respiratory protection. Take precautionary measures against static discharges. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Do not allow to enter drains, sewers or watercourses. Do not allow ANY environmental contamination. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body. To prevent release, place container with damaged side up. Contain spillages with sand, earth or any suitable adsorbent material. Collect and dispose of spillage as indicated in section 13.

6.3. Methods and material for containment and cleaning up

Ventilate well, stop flow of gas or liquid if possible. Remove ignition sources. Do not allow chemical to enter confined spaces such as sewers due to explosion risk. Sewers designed to preclude formation of explosive concentrations of vapour may be permitted. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Remove sources of ignition. Stop leak if possible without risk.

Small Spillages: Let evaporate. Keep out of confined spaces because of explosion risk. Large Spillages: Dam and absorb spillages with sand, earth or other non-combustible material. Shovel into dry containers. Cover and move the containers. Flush the area with water.

Should be prevented from entering drains. Runoff or release to sewer, waterway or ground is forbidden. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Ensure that waste and contaminated materials are collected and

removed from the work area as soon as possible in a suitably labelled container. Spillage may be stored as chemical waste in approved area. When dealing with a spillage, please consult the section relating to suitable protective measures. Clean-up personnel should use respiratory and/or liquid contact protection. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in section 13.

SECTION 7 : HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Avoid acids, moisture, and combustible materials. Wear full protective clothing for prolonged exposure and/or high concentrations. Do not use in confined spaces without adequate ventilation and/or respirator.

Static electricity and formation of sparks must be prevented. Storage tanks and other containers must be grounded. Use explosion proof electric equipment. Do not handle broken packages without protective equipment. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Avoid eating, drinking and smoking when using the product.

7.2. Conditions for safe storage, including any incompatibilities

Flammable/combustible - Keep away from oxidisers, heat and flames. May attack some plastics, rubber and coatings. Ground container and transfer equipment to eliminate static electric sparks. Take precautionary measures against static discharges. Do not store near heat sources or expose to high temperatures. Unsuitable containers: aluminium. Keep away from food, drink and animal feeding stuffs.

Storage Class

Flammable liquid storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2. For further information see attached Exposure Scenario.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Name	STD	TWA – 8 hrs		STEL – 15 min	Notes
Ethanol	WEL	1000 ppm	1920 g/m ³		

WEL= Workplace Exposure Limit.

Ingredient Comments

WEL= Workplace Exposure Limits

ETHANOL (CAS: 64-17-5)

Ingredient Comments

WEL= Workplace Exposure Limits

DNEL

Industry	Inhalation	Short Term	Local Effects	1900 mg/m3
Industry	Dermal	Long Term	Systemic effects	343 mg/kg/day
Industry	Inhalation	Long Term	Systemic effects	950 mg/m3
Consumer	Inhalation	Short Term	Local Effects	950 mg/m3
Consumer	Dermal	Long Term	Systemic effects	206mg/kg/day
Consumer	Inhalation	Long Term	Systemic effects	114mg/m3
Consumer	Oral	Long Term	Systemic effects	87 mg/kg/day
PNEC				
Freshwater	Long Term	0.96	mg/l	
Marinewater	Long Term	0.79	mg/l	
Sediment	Long Term	3.6	mg/kg	
Soil	Long Term	0.63	mg/kg	

ISOPROPANOL (CAS: 67-63-0)

Ingredient Comments

WEL = Workplace Exposure Limits

DNEL

Industry	Dermal	Long Term	Systemic Effects	888mg/kg/day
Industry	Inhalation	Long Term	Systemic Effects	500mg/m3
Consumer	Dermal	Long Term	Systemic Effects	319 mg/kg/day
Consumer	Inhalation	Long Term	Systemic Effects	89 mg/m3
Consumer	Oral	Long Term	Systemic Effects	26mg/kg/day
PNEC				
Freshwater	Long Term	140.9	mg/l	
Marinewater	Long Term	140.9	mg/l	
Sediment	Long Term	552	mg/kg	
Soil	Long Term	28	mg/kg	

METHYL ETHYL KETONE

Ingredient Comments

WEL = Workplace Exposure Limits

DNEL

Industry	Dermal	Long Term	Systemic effects	1161 mg/kg/day
Industry	Inhalation	Long Term	Systemic effects	600mg/m3
Consumer	Oral	Long Term	Systemic effects	31 mg/kg/day
Consumer	Dermal	Long Term	Systemic effects	412 mg/kg/day
Consumer	Inhalation	Long Term	Systemic effects	106 mg/kg/day
PNEC				
Industry	Freshwater	Long Term	55.8 mg/l	
Industry	Marinewater	Long Term	55.8 mg/l	
Industry	Sediment (fresh Water)	Long Term	284.74 mg/kg	
Industry	Sediment (marine Water)	Long Term	287.7 mg/kg	
Industry	Soil	Long Term	22.5 mg/kg	

8.2 Exposure Controls

Protective equipment



Process conditions

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures

If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined Occupational exposure limit is not exceeded. All handling to take place in well-ventilated area. Explosion-proof general and local exhaust ventilation.

Respiratory equipment.

If ventilation is insufficient, suitable respiratory protection must be provided. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Seek advice from supervisor on the companies' respiratory protection standards. Supplied air respirator with full face piece, helmet or hood. Chemical respirator with specific cartridge providing protection against the compound of concern. Change filters frequently. Consult instructions before use. Check that mask fits tight and change filter regularly. When spraying use suitable air-supplied respirator.

Hand protection

Protective gloves must be used if there is a risk of direct contact or splash. Use protective gloves made of: Butyl rubber. Viton rubber (fluor rubber) or Polyethylene.

Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable.

Other Protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

Skin protection

Wear apron or protective clothing in case of contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless
Odour	Alcoholic
Solubility	Soluble in water. Miscible with: Organic solvents
Initial boiling point and boiling range (°C)	78°C 1013 hPa
Melting point (°C)	- 114
Bulk Density	0.789 @ 20°C kg/l
Vapour density (air=1)	1.03
Vapour pressure	5.8 kPa @ 20°C
Evaporation rate	3.4 BuAc=1
Viscosity	1.2 mPas @ 20°C
Flash point (°C)	12 CC (Closed cup).
Auto Ignition Temperature (°C)	363°C

Flammability Limit - Lower(%)	3.5
Flammability Limit - Upper(%)	19
Partition Coefficient (N-Octanol/Water)	log Pow - 0.35

9.2. Other information

Refractive Index	1.3614
Mol. Weight	46.07
Volatile Organic Compound (VOC)	100%

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

Reaction with: Strong oxidising agents. Strong acids

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Reacts with strong oxidising agents Reacts with strong acids
 Hazardous Polymerisation
 Not relevant
 Polymerisation Description
 Not relevant

10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid exposing to heat and contact with strong oxidising substances. Avoid contact with acids.

10.5. Incompatible materials

Materials To Avoid
 Strong oxidising substances. Strong acids. Alkali metals. Acid anhydrides.

10.6. Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information on ingredients.

ETHANOL (CAS: 64-17-5)

Acute toxicity:

Acute Toxicity (Oral LD50)
 > 2000 mg/kg Rat
 Low toxicity

Acute Toxicity (Dermal LD50)
 > 2000 mg/kg Rabbit

Low toxicity

Acute Toxicity (Inhalation LC50)
> 20 mg/l (vapours) Mouse 4 hours
Low toxicity

Skin Corrosion/Irritation:

Not irritating.

Serious eye damage/irritation:

Irritating

Respiratory or skin sensitisation:

Skin sensitisation
Guinea pig maximization test (GPMT): Guinea Pig
Not Sensitising.

Germ cell mutagenicity:

Negative.

Carcinogenicity:

This substance has no evidence of carcinogenic properties.

Reproductive Toxicity:

This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure
NOAEL 1730 mg/kg Oral Rat

Aspiration hazard:

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation

Vapours may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. Prolonged inhalation of high concentrations may damage respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. When working extensively on big surfaces in small and badly ventilated rooms, vapours may develop in concentrations which may cause headache and irritation of the eyes and the respiratory system.

Ingestion

Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting. Swallowing concentrated chemical may cause severe internal injury. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Risk of sensitisation or allergic reactions among sensitive individuals.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Risk of serious damage to eyes. Risk of corneal damage.

Route of entry
Inhalation. Ingestion. Skin and/or eye contact.

Target Organs
Central nervous system Eyes Gastro-intestinal tract Skin

Medical Symptoms
Extreme irritation of eyes and mucous membranes, including burning and tearing. Visual disturbances, incl. blurred vision. Nausea, vomiting. Headache.

Medical Considerations
History of alcoholism.

Specific effects
Ingestion over a long period of time may cause damage to the liver and nervous system.

ISOPROPANOL (CAS: 67-63-0)

Acute toxicity:

Acute Toxicity (Oral LD50)
> 2000 mg/kg Rat
Low toxicity

Acute Toxicity (Dermal LD50)
> 2000 mg/kg Rabbit
Low toxicity

Acute Toxicity (Inhalation LC50)
> 20 mg/l (vapours) Rat 4 hours
Low toxicity

Skin Corrosion/Irritation:
Not irritating to skin

Serious eye damage/irritation:
Irritating

Respiratory or skin sensitisation:
Not Sensitising.

Carcinogenicity:
Not a carcinogen

Aspiration hazard:

General information
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation

Vapours may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. Prolonged inhalation of high concentrations may damage respiratory system. Vapours may irritate throat and respiratory system and cause headache, dizziness and dullness. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Gas or vapour is harmful on prolonged exposure or in high concentrations. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. When working

extensively on big surfaces in small and badly ventilated rooms, vapours may develop in concentrations which may cause malaise such as headache, dizziness and nausea.

Ingestion

Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting. Swallowing concentrated chemical may cause severe internal injury. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Risk of sensitisation or allergic reactions among sensitive individuals.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Risk of serious damage to eyes. Risk of corneal damage.

Route of entry

Inhalation. Ingestion. Skin and/or eye contact.

Target Organs

Central nervous system Eyes Gastro-intestinal tract Skin Kidneys

Medical Symptoms

Extreme irritation of eyes and mucous membranes, including burning and tearing. Visual disturbances, incl. blurred vision. Nausea, vomiting. Headache.

Medical Considerations

Splash in eye requires examination by eye specialist.

METHYL ETHYL KETONE

Acute toxicity:

Acute Toxicity (Oral LD50)

> 2000 mg/kg Rat

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal

Acute Toxicity (Dermal LD50)

> 5000 mg/kg Rabbit

Can be absorbed through the skin

Acute Toxicity (Inhalation LC50)

34 mg/l (vapours) Rat 4 hours

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death

Skin Corrosion/Irritation:

Not irritating to skin

Serious eye damage/irritation:

Causes serious eye irritation

Respiratory or skin sensitisation:

Inhalation of vapours or mists may cause irritation to the respiratory system

Not sensitizing to skin

Carcinogenicity:

This substance has no evidence of carcinogenic properties.

Reproductive Toxicity:

This substance has no evidence of toxicity to reproduction.

Aspiration hazard:

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation

Vapours irritate the respiratory system, and may cause coughing and difficulties in breathing. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Prolonged inhalation of high concentrations may damage respiratory system. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. When working extensively on big surfaces in small and badly ventilated rooms, vapours may develop in concentrations which may cause malaise such as headache, dizziness and nausea.

Ingestion

Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Gastrointestinal symptoms, including upset stomach. Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting. Pneumonia may be the result if vomited material containing solvents reaches the lungs. Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal Swallowing concentrated chemical may cause severe internal injury.

Skin contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Prolonged contact may cause redness, irritation and dry skin. Risk of sensitisation or allergic reactions among sensitive individuals. May be absorbed through the skin.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Risk of corneal damage.

Route of entry

Inhalation. Ingestion. Skin and/or eye contact.

Target Organs

Central nervous system Eyes Gastro-intestinal tract Respiratory system, lungs Skin

Medical Symptoms

Extreme irritation of eyes and mucous membranes, including burning and tearing. Skin irritation. High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting. May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach. Diarrhoea. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Nausea, vomiting. Skin disorders and allergies. Convulsive disorders, CNS problems. Splash in eye requires examination by eye specialist.

SECTION 12 : ECOLOGICAL INFORMATION

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Ecotoxicity

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

ISOPROPANOL (CAS: 67-63-0)

Ecotoxicity

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

METHYL ETHYL KETONE

Ecotoxicity

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

12.1. Toxicity

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Acute Toxicity - Fish

LC50 48 hours > 100 mg/l *Leuciscus idus* (Golden orfe)

Practically non toxic

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours > 100 mg/l *Daphnia magna*

Practically non toxic

Acute Toxicity - Aquatic Plants

EC50 48 hours > 100 mg/l *Selenastrum capricornutum*

Practically non toxic

ISOPROPANOL (CAS: 67-63-0)

Acute Toxicity - Fish

LC50 48 hours > 100 mg/l *Leuciscus idus* (Golden orfe)

Practically non toxic

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours > 100 mg/l *Daphnia magna*

Practically non toxic

Acute Toxicity - Aquatic Plants

EC50 72 hours > 100 mg/l *Scenedesmus subspicatus*

Practically non toxic

METHYL ETHYL KETONE

Acute Toxicity - Fish

LC50 48 hours > 100 mg/l *Leuciscus idus* (Golden orfe)

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours > 100 mg/l *Daphnia magna*

Acute Toxicity - Aquatic Plants

EC50 96 hours 1726 - 2278 mg/l *Scenedesmus subspicatus*

12.2. Persistence and degradability

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Degradability

The product is biodegradable. Oxidises rapidly by photochemical reactions in air.

ISOPROPANOL (CAS: 67-63-0)

Degradability

Readily biodegradable Oxidises rapidly by photochemical reactions in air. The product is biodegradable.

Chemical Oxygen Demand

2.2 g O₂/g substance

METHYL ETHYL KETONE

Degradability

Readily biodegradable Oxidises rapidly by photochemical reactions in air.

Biological Oxygen Demand

g O₂/g substance

Duration of exposure was 5 days

12.3. Bioaccumulative potential

Partition coefficient

log Pow - 0.35

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Bioaccumulative potential

Does not bioaccumulate significantly

Partition coefficient

log Pow - 0.35

ISOPROPANOL (CAS: 67-63-0)

Bioaccumulative potential

Not expected to bioaccumulate significantly

Partition coefficient

log Pow 0.05

METHYL ETHYL KETONE

Bioaccumulative potential

Does not bioaccumulate significantly

Partition coefficient

log Pow 0.3

12.4. Mobility in soil

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Mobility:

The product is water soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater If product enters soil it will be mobile and may contaminate groundwater.

ISOPROPANOL (CAS: 67-63-0)

Mobility:

The product is water soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater If product enters soil it will be mobile and may contaminate groundwater.

METHYL ETHYL KETONE

Mobility:

The product is water soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater If product enters soil it will be mobile and may contaminate groundwater.

Surface tension

24.8 mN/m

@ 20°C

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

This product does not contain any PBT or vPvB substances.

ISOPROPANOL (CAS: 67-63-0)

This product does not contain any PBT or vPvB substances.

METHYL ETHYL KETONE

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

The product contains volatile, organic compounds which have a photochemical ozone creation potential.

ISOPROPANOL (CAS: 67-63-0)

The product contains volatile, organic compounds which have a photochemical ozone creation potential.

METHYL ETHYL KETONE

The product contains volatile, organic compounds which have a photochemical ozone creation potential

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Contaminated packages must be completely emptied before sending away for laundering and re-use Waste, residue, empty containers, discarded work clothes and used disposable towels must be collected in designated receptacles, labelled with content. When handling waste, consideration should be made to the safety precautions applying to handling of the product.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Confirm disposal procedures with environmental engineer and local regulations. Do not allow runoff to sewer, waterway or ground. Contact specialist disposal companies.

SECTION 14 : TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1170
UN No. (IMDG)	1170
UN No. (ICAO)	1170

14.2. UN proper shipping name

Proper Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
----------------------	---

14.3. Transport hazard class(es)

ADR/RID/ADN	Class 3
ADR/RID/ADN Class	Class 3: Flammable liquids.
ADR Label No.	3
IMDG Class	3
ICAO Class/Division	3
Transport Labels	



14.4. Packing group

ADR/RID/ADN Packing group	II
IMDG Packing group	II
ICAO Packing group	II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user

EMS	F-E, S-D
Emergency Action Code	2YE
Hazard No. (ADR)	33
Hazard No. (ADR)	33 Highly flammable liquid (flash-point below 23°C).
Tunnel Restriction Code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Cat Z

SECTION 15 : REGULATORY INFORMATION

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

Environmental Listing
Environmental Protection Act 1990 Hazardous Waste Regulations 2005

Guidance Notes
Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.

EU Legislation
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. 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 with amendments.

National Regulations

Health and Safety at Work Act (As Amended) 1974 Control of Substances Hazardous to Health Regulations 2002 (as amended) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 ("CDG 2009"), SI 2009 No 1348

Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.

Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions of use are noted for this product.

15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out.

SECTION 16 : OTHER INFORMATION

Information Sources

Dangerous Properties of Industrial Materials Report, N.Sax et.al. ECHA

Revision Date 29/08/2013

Revision ISSUE NO2

SDS No. 1014

Safety Data Sheet Status Approved.

Risk Phrases In Full

R11 Highly flammable

R36 Irritating to eyes.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

Hazard Statements In Full

H319 Causes serious eye irritation.

H225 Highly flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

Ref. RKJ/MMS

Date Issued: 24/08/14

Rev No. 3