



**SAFETY DATA SHEET**  
**HELAIAN DATA KESELAMATAN**  
According to Regulation P.U. (A) 310/2013

Revision/ Preparation Date:  
15/11/2019  
Revision: 01

**SECTION 1 : IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER**  
**BAHAGIAN 1 : PENGENALAN BAHAN KIMIA BERBAHAYA DAN PEMBEKAL**

**1.1 Product Identifier**

Pengenalpastian Produk

**Product Name**            **Sanicare SD18**  
*Nama Produk*                *Sanicare SD18*

**1.2 Recommended use of the Chemical and Restrictions on use**

Penggunaan yang Disyorkan bagi Kimia dan Sekatan ke atas Penggunaan

**Versatile Fast Drying Hand Sanitizer**  
*Pembasmi kuman tangan segera kering serba boleh*

**1.3 Details of Principal Supplier**

Butiran Pembekal Utama

**Name (Nama)**                                : **Averex Chemicals Sdn. Bhd / Averex Technology Sdn. Bhd**  
**Address**                                        : **No.13, Jalan Sepadu 25/123A,**  
*Alamat*    **Taman Perindustrian Axis (Prime Axis),**  
**Seksyen 25,**  
**40400 Shah Alam,**  
**Selangor Darul Ehsan,**  
**Malaysia.**

**Telephone No.**                                : **+603 – 55253467**  
*No. Telefon*

**Fax No.**    : **+603 – 55253419**  
*No. Faks*

**Email address**                                : **enquiry@averex.com.my**  
*Alamat Email*


**1.4 Emergency Phone No.**                **+6012 – 288 0978**

*No. Telefon Kecemasan*

**SECTION 2 : HAZARD IDENTIFICATION**  
**BAHAGIAN 2 : PENGENALAN BAHAYA**

**2.1 Classification of the Substance or Mixture**

Pengelasan bahan atau campuran

Health Hazard			
Hazard classes		Hazard Statement	Pictogram
Flam. Liq. 2	H225	Highly flammable liquid and vapour <i>Cecair dan wap yang sangat mudah bakar</i>	

**Precautionary Statements**                :  
*Pernyataan Langkah berjaga-jaga :*

Prevention	
P210	<b>Keep away from heat/sparks/open flames/hot surfaces -No smoking.</b> <i>Jauhkan daripada haba/percikan api/nyalaan terbuka/ permukaan panas-Dilarang merokok.</i>
P233	<b>Keep container tightly closed.</b> <i>Pastikan bekas ditutup dengan ketat.</i>



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P240	<b>Ground/bond container and receiving equipment.</b> <i>Bumikan/ikat bekas dan kelengkapan terimaan.</i>
P241	<b>Use explosion-proof electrical/ventilating/ lighting/...equipment.</b> <i>Gunakan kelengkapan elektrik/pengalihudaraan/ pencahayaan/.../yang tahan letupan.</i>
P242	<b>Use only non-sparking tools</b> <i>Gunakan hanya alat yang tidak mengeluarkan percikan api.</i>
P243	<b>Take precautionary measures against static discharge.</b> <i>Ambil langkah berjaga-jaga terhadap nyahcas statik.</i>
P280	<b>Wear protective gloves/protective clothing/eye protection/face protection.</b> <i>Pakai sarung tangan pelindung/pakaian pelindung/ perlindungan mata/perindungan muka.</i>
<b>Response</b>	
P303+P361+P353	<b>IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.</b> <i>JIKA TERKENA KULIT(atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/ pancuran air.</i>
P370+P378	<b>In case of fire: Use dry powder or dry sand for extinction.</b> <i>Jika berlaku kebakaran: Gunakan serbuk kering atau pasir kering untuk memadamkan kebakaran.</i>
<b>Storage</b>	
P403+P235	<b>Store in a well-ventilated place. Keep cool.</b> <i>Simpan di tempat yang dialihudarakan dengan baik. Simpan di tempat sejuk</i>
<b>Disposal</b>	
P501	<b>Dispose of contents/ container to appropriate waste site or reclaimer in according with local/regional/national regulation.</b> <i>Lupuskan kandungan / bekas ke tapak buangan yang sesuai atau reclaiDispose kandungan / bekas ke tapak buangan yang sesuai atau Reclaimer dilaksanakan sesuai dengan regulationmer tempatan / kawasan / negara dalam mengikut dengan / serantau peraturan tempatan / kebangsaan</i>

**2.2 Label Elements**

*Unsur label*  
 Font size: ≥ 7 points

<b>HYCARE</b>		<b>AVEREX</b>		
<b>SANICARE SD18</b> <b>Versatile Fast Drying Hand Sanitizer</b> Product Code : AHSCSD018XX				
<b>Use Instruction</b>	<b>Hazard Statements:</b> <i>Pernyataan Bahaya:</i> <b>Highly flammable liquid and vapour</b> <i>Cecair dan wap yang sangat mudah bakar</i>		<b>DANGER</b> <b>BAHAYA</b>	
	<b>Precautionary Statements:</b> <i>Pernyataan Langkah berjaga-jaga:</i>  <b>*'Refer below'</b>			
	<b>Nett Content:</b> XXX	<b>B.N:</b> XXX		<b>Exp. Date:</b> XXX
<b>Refer Section1 (1.3)</b>				



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**\*Precautionary Statements :**

*Pernyataan Langkah berjaga-jaga :*

**Keep away from heat/sparks/open flames/hot surfaces -No smoking.**  
*Jauhkan daripada haba/percikan api/nyalaan terbuka/ permukaan panas-Dilarang merokok.*  
**Keep container tightly closed.**  
*Pastikan bekas ditutup dengan ketat.*  
**Use only non-sparking tools**  
*Gunakan hanya alat yang tidak mengeluarkan percikan api.*  
**Wear protective gloves/protective clothing/eye protection/face protection.**  
*Pakai sarung tangan pelindung/pakaian pelindung/ perlindungan mata/perindungan muka.*

**2.3 Other hazards**

*Bahaya lain*

**Not classified as a hazardous chemical**

*Tidak diklasifikasikan sebagai bahan kimia berbahaya*

**SECTION 3 : COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL**  
**BAHAGIAN 3 : KOMPOSISI DAN MAKLUMAT MENGENAI RAMUAN BAHAN KIMIA BERBAHAYA**

**3.1 Mixture**

*Campuran*

<b>Chemical Identity</b> <i>Identiti Kimia</i>	<b>CAS No.</b> <i>No. CAS</i>	<b>Concentration ranges</b> <i>Julat kepekatan</i>
Ethanol	64-17-5	>60%

**SECTION 4 : FIRST-AID MEASURES**

**BAHAGIAN 4 : LANGKAH-LANGKAH PERTOLONGAN CEMAS**

**4.1 Description of necessary measures, subdivided according to the different routes of exposure**

*Penerangan ukuran yang perlu, dibahagikan lagi mengikut laluan yang berbeza daripada pendedahan*

<b>If Swallowed</b> <i>Jika tertelan</i>	<b>Do not delay. Rinse mouth with plenty of water (only if the person is conscious). Get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person.</b> <i>Jangan berlengah lagi. Bilas mulut dengan air (hanya jika mangsa sedar). Dapatkan bantuan perubatan segera. Jangan paksa muntah. Jangan sekali-kali beri apa-apa melalui mulut kepada orang yang tidak sedar.</i>
<b>If in Eyes</b> <i>Jika Terkena Mata</i>	<b>Rinse cautiously with water for several minutes (at least 15 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.</b> <i>Bilas berhati-hati dengan air selama beberapa minit (sekurang-kurangnya 15 minit). Tanggalkan kanta lekap, jika ada dan mudah untuk dilakukan. Teruskan membilas. Dapatkan bantuan perubatan.</i>

**4.2 Most important symptoms/ effects, acute and delayed**

*Gejala / kesan paling penting, akut dan lewat*

**The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11**  
*Gejala dan kesan yang paling penting dijelaskan dalam label (lihat bahagian 2.2) dan / atau dalam seksyen 11*

**4.3 Indication of immediate medical attention and special treatment needed**

*Petunjuk perhatian perubatan segera dan rawatan khas yang diperlukan*

**No additional information available**

*Tiada maklumat tambahan*

**SECTION 5 : FIRE-FIGHTING MEASURES**  
**BAHAGIAN 5 : LANGKAH-LANGKAH PEMADAMAN KEBAKARAN**

**5.1 Suitable Extinguishing Media**

*Alat Pemadam yang sesuai*

**Extinguishing Media** Alcohol foam, Dry chemical powder, Carbon dioxide. Water may be ineffective..  
*Media Pemadaman* Alkohol buih, serbuk kimia kering, karbon dioksida. Air mungkin tidak berkesan.



**5.2 Specific Hazard arising from the Chemical**

*Bahaya khusus yang timbul daripada Kimia*

**Unusual fire & explosion hazard: Wear full protective clothing & NIOSH-approved self-contained breathing apparatus. Water spray can be used to extinguish fires & cool fire-exposed container.**  
*Kebakaran & letupan luar biasa bahaya: Pakai pakaian pelindung lengkap & alat pernafasan serba lengkap NIOSH-diluluskan. Semburan air boleh digunakan untuk memadamkan kebakaran & bekas api terdedah sejuk.*

**5.3 Special Protective Equipment and Precautions for Fire Fighters**

*Peralatan Pelindung Khas dan Langkah berjaga-jaga untuk pejuang Kebakaran*

 <b>Breathing apparatus</b>	<p><b>Special precautions for firefighters:</b>  <i>Langkah berjaga-jaga khas untuk anggota bomba:</i>  <b>Above flash point, vapour-air mixture are explosive within flammable limits noted above. Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks or flames. Sensitive to static discharge. Firefighters should wear protective equipment and self-contained breathing apparatus.</b>  <i>Atas takat kilat, campuran wap-udara adalah letupan dalam had yang mudah terbakar yang dinyatakan di atas. Bahaya letupan sederhana dan bahaya kebakaran berbahaya apabila terdedah kepada haba, percikan api atau nyalaan. Sensitif terhadap pelepasan statik.</i>  <i>Anggota bomba perlulah memakai peralatan perlindungan dan peralatan pernafasan serba lengkap</i></p>
 <b>Full body Protective clothing</b>	

**SECTION 6 : ACCIDENTAL RELEASE MEASURE**  
**BAHAGIAN 6 : LANGKAH-LANGKAH PELEPASAN TIDAK SENGAJA**

**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

*Langkah Berwaspada diri, Peralatan dan Kecemasan Perlindungan Prosedur*

**No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.**

*Tiada tindakan yang akan diambil melibatkan sebarang risiko peribadi atau tanpa latihan yang sesuai. Mengosongkan kawasan sekitar. Pastikan kakitangan yang tidak perlu dan tidak dilindungi daripada memasuki. Jangan sentuh atau berjalan melalui bahan tumpah. Elakkan menghirup wap atau kabus. Menyediakan pengudaraan yang mencukupi. Pakailah respirator yang sesuai apabila pengudaraan tidak mencukupi. Pakai peralatan pelindung diri yang sesuai.*

**6.2 Environmental Precautions**

*Langkah-Langkah Menjaga Alam Sekitar*

**Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).**

*Elakkan penyebaran bahan tumpah dan larian dan sentuhan dengan tanah, saluran air, longkang dan pembetung. Beritahu pihak berkuasa yang berkaitan jika produk tersebut telah menyebabkan pencemaran alam sekitar (pembetung, saluran air, tanah atau udara).*



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**6.3 Method and Material for Containment and Cleaning**

*Kaedah dan bahan untuk pembendungan dan pembersihan*

<b>For containment</b> <i>Untuk membendung</i>
<p><b>Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor.</b></p> <p><i>Hentikan kebocoran jika tanpa risiko. Gerakkan bekas dari kawasan tumpahan. Pendekatan pelepasan dari angin mendadak. Mencegah kemasukan ke pembetung, kursus air, ruang bawah tanah atau kawasan tertutup. Basuh tumpahan ke dalam loji rawatan efluen atau meneruskan seperti berikut. Mengandungi dan mengumpul tumpahan dengan bahan penyerap yang tidak mudah terbakar misalnya, pasir, bumi, vermiculite atau bumi diatom dan tempat di dalam bekas untuk pelupusan mengikut peraturan tempatan (lihat bahagian 13). Buang melalui kontraktor pelupusan sisa berlesen.</i></p>

<b>Methods for cleaning up</b> <i>Kaedah membersihkan</i>
<p><b>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</b></p> <p><i>Hentikan kebocoran jika tanpa risiko. Gerakkan bekas dari kawasan tumpahan. Cairkan dengan air dan mop jika larut air. Secara alternatif, atau jika tidak larut air, diserap dengan bahan kering lengai dan letakkan dalam bekas pelupusan sisa yang sesuai. Buang melalui kontraktor pelupusan sisa berlesen.</i></p>

**SECTION 7 : HANDLING AND STORAGE**  
**BAHAGIAN 7 : PENGENDALIAN DAN PENYIMPANAN**

**7.1 Precautions for Safe Handling**

*Langkah berjaga-jaga Selamat Pengendalian*

**Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container.**

*Makan, minum dan merokok hendaklah dilarang di kawasan di mana bahan ini dikendalikan, disimpan dan diproses. Pekerja harus mencuci tangan dan muka sebelum makan, minum dan merokok. Tanggalkan pakaian dan peralatan perlindungan yang tercemar sebelum memasuki kawasan makan. Jangan makan. Teruskan dalam bekas asli atau alternatif yang diluluskan dibuat dari bahan yang serasi, disimpan rapat apabila tidak digunakan. Jangan gunakan semula bekas*

**7.2 Conditions for Safe Storage, including any incompatibilities**

*Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian*

**Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.**

*Simpan mengikut peraturan tempatan. Simpan di dalam bekas asli yang dilindungi dari cahaya matahari langsung di kawasan kering, sejuk dan berventilasi baik, makanan dan minuman. Pastikan bekas ditutup rapat dan dimeteraikan sehingga siap digunakan. Bekas yang telah dibuka mestilah disusun dengan teliti dan terus tegak untuk mengelakkan kebocoran. Jangan simpan di dalam bekas tidak dilabel. Gunakan pembendungan yang sesuai untuk mengelakkan pencemaran alam sekitar*

**SECTION 8 : EXPOSURE CONTROLS AND PERSONAL PROTECTION**  
**BAHAGIAN 8 : KAWALAN PENDEDAHAN DAN PERLINDUNGAN DIRI**

**8.1 Control Parameters**

*Parameter Kawalan*

CAS No. <i>No. Cas</i>	Chemical name <i>Nama Kimia</i>	Exposure limits <i>Had pendedahan</i>	Type <i>Jenis</i>
64-17-5	Ethanol	1880 mg/m <sup>3</sup>	TWA

\*Time-Weighted Average(TWA): concentration of substance over an eight-hour working shift.

*Masa-Wajaran(TWA): Kepekatan bahan lebih anjakan bekerja lapan jam.*

**Derived No Effect Level (DNEL)**




Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term systemic effects	950 mg/m <sup>3</sup>
Workers	Skin contact	Long-term systemic effects	343mg/kg BW/d
Workers	Ingestion	Long-term systemic effects	343mg/kg BW/d
Workers	Inhalation	Acute local effects	1900 mg/m <sup>3</sup>

**8.2 Appropriate Engineering Controls**


*Kawalan Kejuruteraan sesuai*

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

*Mengendalikan mengikut kebersihan industri dan amalan keselamatan yang baik. Basuh tangan sebelum rehat dan pada akhir hari kerja.*

Type PPE	Function	Symbol												
<b>Body protection</b> <i>Perlindungan badan</i>	<b>Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.</b> <i>Pakaian tahan api, Flame retardant pakaian pelindung antistatik., Jenis peralatan pelindung mesti dipilih mengikut kepekatan dan jumlah bahan berbahaya di tempat kerja tertentu.</i>													
<b>Eye protection</b> <i>Perlindungan mata</i>	<b>Face shield and safety glasses</b> <i>Perisai muka dan cermin mata keselamatan</i>													
<b>Skin protection</b> <i>Perlindungan kulit</i>	<b>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</b> <i>Mengendalikan dengan sarung tangan. Sarung tangan mesti diperiksa sebelum digunakan. Gunakan teknik penyingkiran sarung tangan yang betul (tanpa menyentuh permukaan luar sarung tangan) untuk mengelakkan sentuhan kulit dengan produk ini. Buang sarung tangan yang tercemar selepas digunakan mengikut undang-undang dan amalan makmal yang baik. Basuh dan tangan kering.</i>													
	<table border="1"> <thead> <tr> <th></th> <th>Material <i>Bahan</i></th> <th>Minimum layer thickness <i>Ketebalan lapisan minimum</i></th> <th>Break through time <i>Masa penembusan</i></th> </tr> </thead> <tbody> <tr> <td><b>Full contact</b> <i>Sentuhan penuh</i></td> <td><b>Butyl-rubber</b> <i>Getah nitril</i></td> <td><b>0.3 mm</b> <i>0.3 mm</i></td> <td><b>480 min</b> <b>(8 days)</b> <i>480 min</i> <i>(8 hari)</i></td> </tr> <tr> <td><b>Splash contact</b> <i>Sentuhan percikan</i></td> <td><b>Nitrile rubber</b> <i>Getah nitril</i></td> <td><b>0.2 mm</b> <i>0.2 mm</i></td> <td><b>38 min</b> <i>38 min</i></td> </tr> </tbody> </table>		Material <i>Bahan</i>	Minimum layer thickness <i>Ketebalan lapisan minimum</i>	Break through time <i>Masa penembusan</i>	<b>Full contact</b> <i>Sentuhan penuh</i>	<b>Butyl-rubber</b> <i>Getah nitril</i>	<b>0.3 mm</b> <i>0.3 mm</i>	<b>480 min</b> <b>(8 days)</b> <i>480 min</i> <i>(8 hari)</i>	<b>Splash contact</b> <i>Sentuhan percikan</i>	<b>Nitrile rubber</b> <i>Getah nitril</i>	<b>0.2 mm</b> <i>0.2 mm</i>	<b>38 min</b> <i>38 min</i>	
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	<p>This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers.</p> <p><i>Cadangan ini adalah hanya nasihat dan mesti dinilai oleh pakar kebersihan dan keselamatan industri yang biasa dengan keadaan khusus yang dijangkakan oleh pelanggan kami.</i></p>	
<b>Respiratory protection</b> <i>Perlindungan pernafasan</i>	<b>Face mask/Half-face filter respirator suitable for vapours.</b> <i>Topeng muka / Half-muka alat pernafasan penapis yang sesuai untuk wap</i>	

### 8.3 Individual Protection Measures

*Langkah-langkah Perlindungan Individu*

Individual Protection	Function
<b>Hygiene measures</b> <i>Langkah kebersihan</i>	<p>Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.</p> <p><i>Basuh tangan, lengan dan wajah dengan teliti selepas mengendalikan produk kimia, sebelum makan, merokok dan menggunakan tandas dan pada akhir tempoh kerja. Teknik yang sesuai harus digunakan untuk menghilangkan pakaian yang berpotensi tercemar. Basuh pakaian yang tercemar sebelum menggunakan semula.</i></p>

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**  
 BAHAGIAN 9 : SIFAT FIZIKAL DAN KIMIA

### 9.1 Information on basic physical and chemical properties

*Maklumat tentang asas ciri fizik dan kimia*

a) <b>Appearance (Physical state, colour)</b> <i>Rupa (Keadaan fizikal, warna)</i>	<b>Clear liquid</b> <i>Cecair jernih</i>	k) <b>Vapour Pressure</b> <i>Tekanan Wap</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
b) <b>Odour</b> <i>Bau</i>	<b>Aromatic</b> <i>Aroma</i>	l) <b>Vapour Density</b> <i>Ketumpatan Wap</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
c) <b>Odour Threshold</b>	<b>Not applicable</b>	m) <b>Solubility(ies) in water (g/L)</b> <i>Kebolehlarutan dalam air (g/L)</i>	<b>Miscible</b> <i>Larut</i>
d) <b>1% pH-value, pH meter</b>	<b>5.0 – 7.0</b>	n) <b>Partition Coefficient (n-octanol/water)</b>	<b>Not applicable</b> <i>Tidak berkenaan</i>
e) <b>Melting Point/ Freezing Point(°C)</b> <i>Takat Lebur/ Takat beku (°C)</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>	o) <b>Autoignition Temperature</b> <i>Suhu Pengautocucuhan</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
f) <b>Initial Boiling Point and Boiling Range</b> <i>Takat Didih Awal dan Had</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>	p) <b>Decomposition Temperatur</b> <i>Suhu Penguraian</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
g) <b>Flash Point (closed cup)</b> <i>Takat Kilat (cawan tertutup)</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>	q) <b>Viscosity, viscosity cup</b> <i>Kelikatan</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
h) <b>Evaporation Rate</b> <i>Kadar Sejatan</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>	r) <b>Percentage Volatile</b> <i>% Bahan Mudah Meruap</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
i) <b>Flammable Limit (%)</b> <i>Had Kemudahbakaran (%)</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>	s) <b>T.S.C. of Polymer</b> <i>T.S.C Polimer</i>	<b>Not applicable</b> <i>Tidak berkenaan</i>
j) <b>Specific Gravity, Hydrometer</b> <i>Graviti Tentu</i>	<b>0.88 – 0.95</b> <i>0.88 – 0.95</i>		



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**SECTION 10 : STABILITY AND REACTIVITY**  
**BAHAGIAN 10 : KESTABILAN DAN KEREAKTIFAN**

**10.1 Reactivity**

Kereaktifan

**No additional information available**

*Tiada maklumat tambahan yang boleh didapati*

**10.2 Chemical Stability**

Kestabilan kimia

**Stable under normal conditions**

*Stabil pada keadaan biasa*

**10.3 Possibility of Hazardous Reactions**

Kemungkinan Tindakbalas berbahaya

**Under normal conditions of storage and use, hazardous reactions will not occur.**

*Dalam keadaan biasa penyimpanan dan penggunaan, tindak balas berbahaya tidak akan berlaku*

**10.4 Condition to Avoid**

Keadaan yang perlu dielak

**Direct sunlight, extremely high or low temperatures, heat, flames and sparks**

*Cahaya matahari langsung, amat tinggi atau suhu rendah, haba, api dan percikan*

**10.5 Incompatible Materials**

Bahan tidak serasi

**Alkali metals, Oxidizing agents, Peroxides**

*Logam alkali, Ejen pengoksidaan, Peroksida*

**10.6 Hazardous Decomposition Products**

Hasil penguraian berbahaya

**Under normal conditions of storage and use, hazardous decomposition products should not be produced.**

*Di bawah keadaan biasa penyimpanan dan penggunaan, produk penguraian berbahaya tidak boleh dihasilkan.*

**SECTION 11 : TOXICOLOGICAL INFORMATION**

**BAHAGIAN 11 : MAKLUMAT TOKSIKOLOGI**

**11.1 Information on the Likely Routes of Exposure**

Maklumat mengenai Cara-Cara Pendedahan yang Dijangka

**Acute Toxicity**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol (64-17-5)	10,470 mg/kg (Rat)	124.7 mg/l (4h) (Rat)	30,000 mg/l (4h) (Rat)

**11.2 Symptoms Related to the Physical, Chemical and Toxicological Characteristics**

Gejala berkaitan dengan fizikal, kimia dan Ciri-ciri toksikologi

Ethanol (64-17-5)	
Skin Corrosion/ Irritation	No skin irritation
Serious eye damage/ irritation	No information available
Respiratory or skin sensitisation	Negative
Germ cell mutagenicity	Negative





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Carcinogenicity	ACGIH	IARC	NTP	OSHA
	-	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.	-	-
Reproductive Toxicity	No information available			
STOT - single exposure	No information available			
STOT - repeated exposure	No information available			
a. Chronic Toxicity	Carcinogenic potential is unknown			
b. Target organ Effects	Respiratory system, eyes, skin, gastrointestinal tract			
Aspiration Hazard	No information available			

**11.3 Delayed and Immediate Effects and also Chronic effects from Short and Long Term Exposure**

*Kelewatan dan Kesan serta-merta dan juga kesan kronik daripada ringkas dan Pendedahan Jangka Panjang*

<b>Inhalation</b> <i>Penyedutan</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Ingestion</b> <i>Penghadaman</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Skin contact</b> <i>Sentuhan kulit</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Eye contact</b> <i>Sentuhan mata</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Carcinogenicity</b> <i>Karsinogenisiti</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Mutagenicity</b> <i>Mutagenisiti</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Teratogenicity</b> <i>Teratogenisiti</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>
<b>Developmental effects</b> <i>Kesan perkembangan</i>	<b>No known significant effects or critical hazards.</b> <i>Tiada kesan penting atau bahaya kritikal yang diketahui.</i>

**SECTION 12 : ECOLOGICAL INFORMATION**  
**BAHAGIAN 12 : MAKLUMAT EKOLOGI**

**12.1 Ecotoxicity**

*Eko-toksikan*

**Aquatic Toxicity** : Material is not expected to be toxic to aquatic life  
*Ketoksikan* : Bahan dijangka tidak akan menjadi toksik kepada hidupan akuatik

Aquatic Toxicity	LC50	EC50
Fish	15.3 mg/l - 96 hr Pimephales promelas (fathead minnow)	-
Daphnia and other aquatic invertebrates	5.012 mg/l - 48 h Ceriodaphnia dubia (water flea)	-
Algae	-	275 mg/l - 72 h Chlorella vulgaris (Fresh water algae)

**12.2 Persistence and Degradability**

*Kegiqihan dan Perosotan*

**Readily biodegradable: 95% (aerobic, exposure time: 15 days)**  
*Mudah terbiodegradasikan: 95% (aerobik, masa pendedahan: 15 hari)*



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**12.3 Bioaccumulative Potential**

*Potensi bioakumulasi*

**No additional information available**  
*Tiada maklumat tambahan*

**12.4 Mobility in soil**

*Mobiliti di dalam tanah*

**No additional information available**  
*Tiada maklumat tambahan*

**12.5 Other adverse effects**

*Lain-lain kesan buruk*

**No additional information available**  
*Tiada maklumat tambahan*

**SECTION 13 : DISPOSAL INFORMATION**  
**BAHAGIAN 13 : MAKLUMAT PELUPUSAN**

**13.1 Description of Waste Residue**

*Penerangan Sisa Sisa*

**All waste must be disposed of in accordance with the Environmental Quality (Scheduled Waste) Regulations 2005 by authorized waste management company, unless you have written approval from the Department of Environment, disposal of chemicals by way of the sanitary sewer system is prohibited**

*Semua sampah hendaklah dilupuskan mengikut Peraturan-Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005 yang diberi kuasa oleh syarikat pengurusan sisa, kecuali anda telah menulis kelulusan daripada Jabatan Alam Sekitar, pelupusan bahan kimia melalui sistem pembetung sanitari adalah dilarang.*

**13.2 Safe Handling**

*Pengendalian yang selamat*

- **All waste containers must have tightly fitting caps and be kept closed at all times except when waste is actually being added. Do not overfill liquid containers. To minimize spillage, allow enough air space for expansion.**  
*Semua bekas sisa mesti mempunyai penutup yang dipakai ketat dan disimpan sentiasa tertutup sepanjang masa kecuali apabila sisa sebenarnya ditambah. Jangan terlampau isi bekas cecair. Untuk mengurangkan tumpahan, membenarkan ruang udara yang cukup untuk pengembangan.*
- **All waste containers must be labeled as to their contents and approximate concentrations**  
*Semua bekas sampah perlu dilabelkan sebagai untuk kandungan mereka dan kepekatan anggaran*

**13.3 Method of Disposal**

*Kaedah Pelupusan*

- **Dispose in a safe manner in accordance with local/national regulations, Environmental Quality (Scheduled Waste) Regulations 2005, FIRST SCHEDULE, Department of Environment (DOE)**  
*Lupuskan dengan cara yang selamat mengikut peraturan-peraturan tempatan / kebangsaan, Kualiti Alam Sekeliling (Buangan Terjadual) 2005, JADUAL PERTAMA, Jabatan Alam Sekitar (JAS)*
- **Ecology – waste materials : Avoid release to the environment**  
*Ekologi - bahan-bahan buangan: Elakkan daripada melepaskan ke persekitaran*
- **Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.**  
*Dibakar dalam insinerator kimia yang dilengkapi dengan pembakar selepas dan penggosok, tetapi berikan penjagaan tambahan untuk menyalakan kerana bahan ini sangat mudah terbakar.*

**SECTION 14 : TRANSPORTATION INFORMATION**  
**BAHAGIAN 14 : MAKLUMAT PENGANGKUTAN**

**14.1 UN number**

*Number UN*

Land transport (ADR/RID)	1170
Marine transport (IMDG)	1170
Air transport ICAO/IATA	1170




**14.2 UN proper shipping name**

*Nama penghantaran UN yang betul*

Land transport (ADR/RID)	ETHANOL (ETHYL ALCOHOL) @ ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Marine transport (IMDG)	ETHANOL (ETHYL ALCOHOL) @ ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Air transport ICAO/IATA	ETHANOL (ETHYL ALCOHOL) @ ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

**14.3 Transport hazard class(es)**

*Pengangkutan Kelas bahaya*

Land transport (ADR/RID)	
Marine transport (IMDG)	
Air transport ICAO/IATA	

**14.4 Packing group, if applicable**

*Pembungkusan, jika berkenaan*

Land transport (ADR/RID)	III
Marine transport (IMDG)	III
Air transport ICAO/IATA	III

**14.5 Environmental hazards**

*Bahaya Alam Sekitar*

In accordance with *Dangerous Goods list (Part 3) IMDG (International Maritime Dangerous Goods Code) volume 2:*  
 Marine pollutant: No



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**14.6 Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code**

*Pengangkutan dalam pukal menurut Lampiran II MARPOL 73/78 dan Kod IBC*

IBC		Portable tanks and bulk containers		
Instructions	Provisions	IMO tank instructions	UN tank instructions	Provisions
IBC03	-	-	T2	TP1

**14.7 Special precautions which need to aware/ need to comply with, in connection either within/outside their premises**

*Langkah berjaga-jaga khas yang perlu sedar / perlu mematuhi, berkaitan sama ada di dalam / di luar premis mereka*

**Read safety instructions, SDS and emergency procedures before handling.**

*Baca arahan-arahan keselamatan, SDS dan prosedur kecemasan sebelum mengendalikan.*

**EMS: F-E, S-D**

**Volatile liquid,**

**Pure ETHANOL: Flashpoint 13°C c.c, Explosive limit: 3.3% to 19%**

**SECTION 15 : REGULATORY INFORMATION**  
**BAHAGIAN 15 : MAKLUMAT PENGAWALANSELIAAN**

**15.1 Safety, Health and Environmental Regulations**

*Keselamatan, Kesihatan dan Alam Sekitar Peraturan*

- **OCCUPATIONAL SAFETY AND HEALTH ACT 1994, Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A)310/2013]**
  4. (1) A principal supplier shall classify a chemical as hazardous chemical in accordance with the list of classified chemicals specified in Part 1 of the Industry Code of Practice.  
(2) If the chemical to be classified is not listed as a classified chemical in Part 1 of the Industry Code of Practice, the classification of the chemical as a hazardous chemical shall be in accordance with physical, health and environmental hazard of the chemical as specified in Part 2 of the Industry Code of Practice
  13. (3) The information referred to in subregulation (2) shall be –
    - (a) in accordance with the minimum requirement of a Safety Data Sheet as specified in Part 3 of the Industry Code of Practice
    - (b) in the national language and English language
  - (4) A supplier shall revise a Safety Data Sheet referred to in subregulation (1) if-
    - (a) New information on particular hazardous chemical becomes available
    - (b) more than five years have elapsed since the last date of preparation or revision of the Safety Data Sheet; or
    - (c) so directed by an officer
- **Occupational Safety & Health (Use and Standard of Exposure of Chemical Hazardous to Health) Regulation 2000 USECHH 2000 [P.U.(A)131/2000]**
  24. Chemical Safety Data Sheet  
An employer who receives a supply of chemicals hazardous to health for which the chemicals are not labelled or the Chemical Safety Data Sheets have not been provided, shall obtain the relevant information from the supplier and shall not use the chemicals until such information is obtained.
  25. Provision of Chemical Safety Data Sheet in a place of work  
In any place of work where a chemical hazardous to health is used, the current Chemical Safety Data Sheet for that chemical or a copy thereof shall be kept in a conspicuous place close to each location where that chemical is used, and shall be easily accessible to the employees.
- **The Environmental Quality Act 1974 (Act 127) Regulations**  
Environmental Quality (Industrial Effluent) Regulations 2009  
Section 25. Restrictions on pollution of inland waters  
Section 29. Prohibition of discharge of waste into Malaysia waters
- **Environmental Quality (Scheduled Waste) Regulations 2005**
  4. Disposal of Scheduled Wastes
    - (1) Scheduled wastes shall be disposed of at prescribed premises only
    - (2) Scheduled wastes shall as far as is practicable, be rendered innocuous prior to disposal



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**SECTION 16 : OTHER INFORMATION**  
**BAHAGIAN 16 : MAKLUMAT LAIN**

**16.1 Date of Preparation & Revision of the SDS**

Tarikh penyediaan & penyemakan SDS

15/11/2019

REV01

**16.2 Literature References and Sources for Data Used to Compile the SDS**

Sastera Rujukan dan Sumber Data Digunakan untuk Mengumpul SDS

- i. Guidelines on the Control of Chemicals Hazardous to Health, 2001
- ii. Guidelines on Storage of Hazardous Chemicals: A guide for Safe Warehousing of Packaged Hazardous Chemicals, 2005
- iii. Guidelines on the use of Personal Protective Equipment against Chemicals Hazards, 2005.
- iv. Industry Code of Practice on Chemical Classification & Hazard Communication 2014 (ICOP)
- v. Dangerous Goods list & limited quantities exceptions (Part 3) IMDG (*International Maritime Dangerous Goods Code*), volume 2, 2006 edition.

**16.3 Key/Legend to the Abbreviations and Acronyms used in the SDS**

Utama / Legend kepada Singkatan dan Akronim digunakan dalam SDS

Abbreviation	Meaning
N.O.S	Not otherwise specified
Flam Liq.2	Flammable Liquid Category 2
TWA	Time-Weighted Average
ADR	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 Government Industrial Hygienists
CAS	Chemical Abstracts Service
IARC	International Agency for Resesarch on Cancer

**16.4 Other Information**

Lain-lain maklumat

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet (SDS) is to describe the products in terms of their safety requirement. The data does not signify any warranty with regard to the products properties. It is the users responsibility to determine the suitability of this information for adoption of necessary safety precautions. We reserve the right to revise the SDS periodically as new information becomes available.

*Maklumat yang dinyatakan berdasarkan pengalaman dan pengetahuan yang terkini. Tujuan Helaihan Data Keselamatan ini adalah untuk menerangkan tentang produk dari segi keperluan keselamatannya. Data tidak menunjukkan apa-apa jaminan berhubung dengan sifat-sifat produk. Ini adalah tanggungjawab pengguna untuk menentukan kesesuaian penggunaan bahan kimia tersebut. Kami berhak mengubah data di dalam Helaihan Data Keselamatan ini apabila terdapat maklumat dan pengetahuan terbaru.*