

Helaian Data Keselamatan menurut P.U.(A) 310/2013

Tarikh cetak 06.02.2018

Disemak semula pada 07.09.2016

1 Pengenalan bahan kimia dan pembekal

Nama dagang: 952-S Soldering Flux

Nombor artikel: C3-00-952-S

Kegunaan yang disarankan bagi bahan dan sekatan penggunaan Flux Memateri

Penggunaan bahan/sediaan Fluks pateri

Perincian pembekal risalah data keselamatan

Pengilang/Pembekal:

Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143 USA
Tel (630) 616-4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

Kester GmbH
Ganghofer Strasse 45
D-82216 Gernlinden Germany
Tel +49 (0) 8142 4885 0

Maklumat lanjut dapat diperoleh daripada:

Product Compliance: EHS_Kester@kester.com

Nombor telefon kecemasan:

CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300

CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number : (703) 527-3887

2 Pengenalan bahaya

Pengelasan bahan atau campuran



Nyalaan

Cec. M. Bkr 2 H225 Cecair dan wap amat mudah terbakar.



Kreng. Mata 2 H319 Menyebabkan kerengsaan mata yang serius.

STOT SE 3 H336 Boleh menyebabkan mengantuk atau kepeningan.

Melabelkan unsur

Unsur label GHS Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

Piktogram hazard



GHS02 GHS07

Perkataan isyarat Bahaya

(Bersambung ke halaman 2)

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(Sambungan halaman 1)

Pernyataan hazard

H225 Cecair dan wap amat mudah terbakar.
H319 Menyebabkan kerengsaan mata yang serius.
H336 Boleh menyebabkan mengantuk atau kepeningan.

Pernyataan langkah perlindungan

P210 Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.
P261 Elakkan daripada tersedut habuk/wasap/gas/kabus/wap/semburan.
P280 Pakai sarung tangan pelindung / perlindungan mata.
P303+P361+P353 JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.
P304+P340 JIKA TERSEDUT: Pindahkan mangsa ke kawasan berudara segar dan biarkan mangsa dalam keadaan rehat supaya mangsa dapat bernafas dengan selesa.
P305+P351+P338 JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.
P403+P233 Simpan di tempat yang dialihudarkan dengan baik. Pastikan bekas ditutup dengan ketat.
P501 Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

Sistem pengelasan:

NFPA ratings (Scale 0 - 4)



Health = 1
Fire = 3
Reactivity = 0

Bahaya lain






Keputusan penilaian PBT dan vPvB

PBT: Tidak berkenaan
vPvB: Tidak berkenaan

3 Komposisi dan maklumat mengenai ramuan bahan kimia berbahaya

Keterangan: Campuran bahan disenaraikan di bawah bersama dengan bahan tambah tidak berbahaya.

Komponen berbahaya :

CAS: 67-63-0	Isopropanol	 Cec. M. Bkr 2, H225  Kreng. Mata 2, H319; STOT SE 3, H336	85-100%
Trade Secret	Proprietary organic acids	 Kreng. Mata 2, H319	1-3%
Trade Secret	Azole Isomers	 Pemb. 2, H361  Toks. Akut 4, H302; Kreng. Mata 2, H319	0.1- 1%

SVHC

This product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

4 Langkah-langkah pertolongan cemas

Keterangan langkah pertolongan cemas

Maklumat am: Ikut prosedur pertolongan cemas umum.

Jika tersedut: Berikan udara bersih, hubungi doktor jika terdapat aduan.

Jika terkena kulit: Segera basuh dengan air dan sabun serta bilas bersih-bersih.

Jika terkena mata:

Bilas mata sambil membukanya di bawah air yang mengalir selama beberapa minit. Jika gejala berterusan, hubungi doktor.

Jika tertelan: Segera dapatkan nasihat perubatan.

Maklumat untuk doktor:

Gejala dan kesan paling penting, akut dan lewat Tiada maklumat lanjut yang diperoleh.

(Bersambung ke halaman 3)

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Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan Tiada maklumat lanjut yang diperolehi. (Sambungan halaman 2)

5 Langkah-langkah pemadaman kebakaran

Bahan pemadam api**Agen pemadam yang sesuai:** CO₂, serbuk atau semburan air. Padam kebakaran besar dengan busa rintangan alkohol.**Bahaya khusus yang timbul daripada bahan atau campuran**Nitrogen oksida (NO_x)

Jika berlaku kebakaran, yang berikut mungkin dilepaskan:

Panduan kepada pemadam kebakaran**Kelengkapan perlindungan:** Tiada langkah khusus diperlukan.

6 Langkah-langkah pelepasan tidak sengaja

Langkah perlindungan diri, kelengkapan pelindung dan prosedur kecemasan

Pakai kelengkapan perlindungan. Jauhkan mereka yang tidak dilindungi dari kawasan tercemar.

Pastikan pengalihan udara mencukupi.

Jauhkan dari punca pencucuhan.

Langkah perlindungan alam sekitar: Jangan biarkannya memasuki pembentung/air permukaan atau tanah.**Keadaan dan bahan untuk pembendungan dan pembersihan:** Pastikan pengalihan udara mencukupi.**Rujukan ke bahagian lain**

Lihat Bahagian 7 untuk maklumat pengendalian yang selamat.

Lihat Bahagian 8 untuk maklumat kelengkapan perlindungan diri.

Lihat Bahagian 13 untuk maklumat pelupusan.

7 Pengendalian dan penyimpanan

Pengendalian:**Langkah perlindungan untuk pengendalian selamat**

Simpan di tempat yang sejuk dan kering di dalam bekas bertutup rapat.

Pastikan pengalihan udara/ekzos yang mencukupi di tempat kerja.

Elakkan pembentukan aerosol.

Maklumat kebakaran dan perlindungan daripada letupan:

Jauhkan dari punca pencucuhan - Dilarang merokok.

Lindungi daripada cas-cas elektrostatik.

Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian**Penyimpanan:****Keperluan yang mesti dipenuhi oleh bilik stor dan ruang simpanan.** Simpan di tempat sejuk.**Maklumat penyimpanan di dalam satu tempat penyimpanan yang biasa:** Jauhkan daripada agen pengoksidaan.**Maklumat lanjut tentang syarat penyimpanan:**

Pastikan bekas sentiasa bertutup rapat.

Simpan di tempat yang sejuk dan kering di dalam bekas bertutup rapat.

Kegunaan akhir yang khusus Tiada maklumat lanjut yang diperolehi.

8 Kawalan pendedahan dan perlindungan diri

Maklumat tambahan tentang reka bentuk kemudahan teknikal: Tiada maklumat lanjut, lihat perkara 7.

(Bersambung ke halaman 4)

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(Sambungan halaman 3)

Parameter kawalan

Ramuan dengan nilai had yang memerlukan pemantauan di tempat kerja:

CAS: 67-63-0 Isopropanol

PEL | Nilai jangka panjang: 49 mg/m³, 10 ppm

Proprietary organic acids

PEL | Nilai jangka panjang: 5 mg/m³

Kawalan pendedahan

Kelengkapan perlindungan diri:

Langkah perlindungan dan kebersihan am:

Langkah berjaga-jaga yang biasa hendaklah diikuti apabila mengendalikan bahan kimia.

Jauhkan daripada makanan, minuman dan makanan haiwan.

Segera tanggalkan semua pakaian yang tercemar dan kotor.

Basuh tangan sebelum berhenti rehat dan apabila kerja selesai.

Elakkan daripada terkena mata dan kulit.

Perlindungan pernafasan:

Tidak diperlukan jika bilik mempunyai pengalihudaraan yang baik.

Gunakan alat perlindungan pernafasan yang sesuai jika pengalihudaraan tidak mencukupi.

Perlindungan tangan:



Sarung tangan pelindung.

Bahan sarung tangan

Getah nitril, NBR

Getah asli, NR

Jangka masa penyerapan bahan sarung tangan

Waktu kemunculan yang tepat hendaklah diperoleh pengeluar sarung tangan pelindung dan hendaklah dipatuhi.

Perlindungan mata:



Kaca keselamatan

9 Sifat fizikal dan kimia

Maklumat tentang ciri fizik dan kimia

Maklumat Am

Rupa:

Bentuk:

Cecair

Warna:

Jernih

Bau:

Seperti alkohol

Nilai pH pada 20 °C (68 °F):

3.3

Perubahan pada keadaan

Takat lebur/takat beku

Tidak ditentukan.

Takat didih awal dan julat didih

82 °C (179.6 °F)

Takat kilat:

12 °C (53.6 °F)

Suhu pencucuhan:

399 °C (750.2 °F)

(Bersambung ke halaman 5)

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(Sambungan halaman 4)

Suhu pengautocucuhan	Produk tidak tercucuh sendiri
Bahaya letupan:	Produk tidak mudah meletup. Walau bagaimanapun, pembentukan campuran udara/wap mungkin berlaku.
Had letupan :	
Bawah:	2 Vol %
Atas:	12 Vol %
Tekanan wap pada 20 °C (68 °F):	43 hPa (32.3 mm Hg)
Ketumpatan pada 20 °C (68 °F):	0.8 g/cm ³ (6.68 lbs/gal)
Keterlarutan dalam / Keterlarutcampuran dengan Air:	Terlarut campur sepenuhnya.
Kandungan pelarut:	
Pelarut organik:	93.1 %
Air:	4.9 %
Kandungan pepejal:	2.0 %
Maklumat lain	Tiada maklumat lanjut yang diperoleh.

10 Kestabilan dan kereaktifan

Kereaktifan Tiada maklumat lanjut yang diperoleh.

Kestabilan kimia

Penguraian terma/keadaan yang perlu dielakkan: Tiada penguraian jika digunakan mengikut spesifikasi.

Kemungkinan tindak balas berbahaya Tiada tindak balas berbahaya yang diketahui.

Keadaan yang perlu dielakkan Tiada maklumat lanjut yang diperoleh.

Bahan tidak serasi: Tiada maklumat lanjut yang diperoleh.

Produk penguraian yang berbahaya:

Mungkin dalam keadaan surih.

When heated to soldering temperatures, the solvents are evaporated and organic materials may be thermally degraded to liberate aliphatic aldehydes and acids.

11 Maklumat toksikologi

Maklumat tentang kesan toksikologi

Ketoksikan akut:

Nilai LD/LC50 yang berkaitan untuk pengelasan:

CAS: 67-63-0 Isopropanol

Oral	LD50	5,045 mg/kg (rat)
Derma	LD50	12,800 mg/kg (rabbit)
Tersedut	LC50/4 h	30 mg/l (rat)

Kesan kerengsaan primer:

Kakisan atau kerengsaan kulit Tiada kesan merengsa.

Kerosakan atau kerengsaan mata yang serius Kesan merengsa.

Pemekaan pernafasan / kulit Pemekaan mungkin berlaku melalui penyedutan.

Maklumat tambahan toksikologi:

Produk menunjukkan bahaya berikut mengikut kaedah pengiraan Garis Panduan Pengelasan Am EU bagi Sediaan seperti yang dikeluarkan dalam versi terbaru:

(Bersambung ke halaman 6)

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Perengsa

(Sambungan halaman 5)

12 Maklumat ekologi

Ketoksikan

Ketoksikan akuatik: Tiada maklumat lanjut yang diperoleh.

Keterusan dan keterdegradasikan Tiada maklumat lanjut yang diperoleh.

Kelakuan dalam sistem alam sekitar:

Potensi bioakumulatif Tiada maklumat lanjut yang diperoleh.

Mobiliti di dalam tanah Tiada maklumat lanjut yang diperoleh.

Maklumat tambahan ekologi:

Nota am:

Jangan biarkan produk yang tidak dicairkan atau dalam kuantiti yang banyak memasuki air tanah, saluran air atau sistem pembetungan.

Keputusan penilaian PBT dan vPvB

PBT: Tidak berkenaan

vPvB: Tidak berkenaan

Kesan buruk yang lain Tiada maklumat lanjut yang diperoleh.

13 Maklumat pelupusan

Kaedah rawatan sisa

Syor:

Tidak boleh dilupuskan bersama dengan sampah isi rumah. Jangan biarkan produk memasuki sistem pembetungan.

Pembungkusan yang tidak bersih:

Syor: Pelupusan mestilah dijalankan menurut peraturan rasmi

Agen pencuci yang disyorkan: Air, jika perlu, digunakan bersama dengan agen pencuci.

14 Maklumat pengangkutan

Nombor UN

ADR, IMDG, IATA

UN1219

Nama penghantaran UN yang betul

ADR

1219 ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

IMDG, IATA

ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

pengangkutan kelas bahaya

ADR, IMDG, IATA



Kelas

3 Cecair mudah terbakar.

Label

3

Kumpulan pembungkusan

ADR, IMDG, IATA

II

Hazard persekitaran:

Bahan cemar marin:

Tidak

Langkah perlindungan khas untuk pengguna

Amaran: Cecair mudah terbakar.

Kod bahaya (Kemler):

33

Nombor EMS:

F-E,S-D

(Bersambung ke halaman 7)

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(Sambungan halaman 6)

Stowage Category B
Pengangkutan dalam pualam menurut Lampiran II MARPOL73/78 dan Kod IBC Tidak berkenaan

Pengangkutan/Maklumat Tambahan:

ADR
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml

IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
"Peraturan Model" UN: UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) MIXTURE, 3, II

15 Maklumat pengawalseliaan

Peraturan/undang-undang keselamatan, kesihatan dan persekitaran khusus untuk bahan atau campuran tersebut

All ingredients are listed on the following Government Inventories:

China: Inventory of Existing Chemical Substances in China (IECSC)
Korea: Korea Existing Chemicals List (ECL)
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
Japan: Inventory of Existing and New Chemical Substances (ENCS)
Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

Unsur label GHS Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

Piktogram hazard



GHS02 GHS07

Perkataan isyarat Bahaya

Pernyataan hazard

H225 Cecair dan wap amat mudah terbakar.
H319 Menyebabkan kerengsaan mata yang serius.
H336 Boleh menyebabkan mengantuk atau kepeningan.

Pernyataan langkahan perlindungan

P210 Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.
P261 Elakkan daripada tersedut habuk/wasap/gas/kabus/wap/semburan.
P280 Pakai sarung tangan pelindung / perlindungan mata.
P303+P361+P353 JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.
P304+P340 JIKA TERSEDUT: Pindahkan mangsa ke kawasan berudara segar dan biarkan mangsa dalam keadaan rehat supaya mangsa dapat bernafas dengan selesa.
P305+P351+P338 JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.
P403+P233 Simpan di tempat yang dialihudarkan dengan baik. Pastikan bekas ditutup dengan ketat.
P501 Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

Penilaian keselamatan bahan kimia: Penilaian Keselamatan Bahan Kimia belum dilakukan.

MY
(Bersambung ke halaman 8)

Nama dagang: 952-S Soldering Flux

(Sambungan halaman 7)

16 Maklumat lain

"Maklumat yang terkandung dalam dokumen ini adalah berdasarkan data yang dianggap tepat dan diberikan semata-mata untuk makluman, pertimbangan dan penyiasatan. Kester tidak memberikan apa-apa waranti, tidak membuat apa-apa pernyataan dan tidak bertanggungjawab terhadap ketepatan, lengkapnya atau kesesuaian data ini untuk apa-apa kegunaan pembeli. Data dalam Risalah Data Keselamatan Bahan ini hanya berkaitan dengan produk ini dan tidak berkaitan dengan penggunaan apa-apa bahan lain atau apa-apa proses. Semua produk kimia hendaklah digunakan hanya oleh, atau di bawah arahan, kakitangan yang layak dari segi teknikal yang mengetahui tentang bahaya yang terlibat dan perlunya perhatian yang sewajarnya semasa pengendalian.

Jabatan yang mengeluarkan SDS: Product Compliance / EHS Department**Hubungi:** EHS_Kester@kester.com**Singkatan dan akronim:**

ICAO: International Civil Aviation Organisation

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Cec. M. Bkr 2: Cecair mudah terbakar – Kategori 2

Toks. Akut 4: Ketoksikan akut – Kategori 4

Kreng. Mata 2: Kerosakan mata atau kerengsaan mata yang serius – Kategori 2

Pemb. 2: Ketoksikan pembiakan – Kategori 2

STOT SE 3: Ketoksikan organ sasaran khusus (pendedahan tunggal) – Kategori 3

*** Data dibandingkan mengikut versi terdahulu yang diubah suai**

Safety Data Sheet

according to P.U.(A) 310/2013

Printing Date: 06.02.2018

Version number 15

Revision: 07.09.2016

1 Identification of the hazardous chemical and of the supplier

Trade name: 952-S Soldering Flux

Article number: C3-00-952-S

Recommended use of the chemical and restrictions on use Flux Memateri

Penggunaan bahan/sediaan Soldering flux

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Hengqiao Road, Wujiang Economic Development Zone
Suzhou, Jiangsu Province, China 215200
Tel +86 512 82060807

Kester GmbH
Ganghofer Strasse 45
D-82216 Gernlinden Germany
Tel +49 (0) 8142 4785 0

Further information obtainable from:

Product Compliance: EHS_Kester@kester.com

Emergency telephone number:

CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300

CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number : (703) 527-3887

2 Hazard identification

Classification of the substance or mixture



flame

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



Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Label elements

GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS02 GHS07

Signal word Danger

(Continued on page 2)

MY

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Trade name: 952-S Soldering Flux

(Continued from page 1)

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.

P261 Avoid breathing dust/fume/ gas/mist/vapours/spray.

P280 Wear protective gloves / eye protection.

P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)

 Health = 1
 Fire = 3
 Reactivity = 0






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

vPvB: Not applicable.

3 Composition and information of the ingredients of the hazardous chemical

Description: Mixture of substances listed below with nonhazardous additions.

Chemical components:

CAS: 67-63-0	isopropanol	 Flam. Liq. 2, H225  Eye Irrit. 2, H319; STOT SE 3, H336	85-100%
Trade Secret	Proprietary organic acids	 Eye Irrit. 2, H319	1-3%
Trade Secret	Azole Isomers	 Repr. 2, H361  Acute Tox. 4, H302; Eye Irrit. 2, H319	0.1- 1%

SVHC

This product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

4 First-aid measures

Description of first aid measures
General information: Ikut prosedur pertolongan cemas umum.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.

(Continued on page 3)

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Trade name: 952-S Soldering Flux

Indication of any immediate medical attention and special treatment needed No further relevant information available. (Continued from page 2)

5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.**Special hazards arising from the substance or mixture**Nitrogen oxides (NO_x)

In case of fire, the following can be released:

Advice for firefighters**Protective equipment:** No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources.

Environmental precautions: Do not allow to enter sewers/ surface or ground water.**Methods and material for containment and cleaning up:** Ensure adequate ventilation.**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling:**Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Store away from oxidising agents.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

Additional information about design of technical facilities: No further data; see item 7.

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Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 67-63-0 isopropanol

PEL (Malaysia) | Long-term value: 49 mg/m³, 10 ppm

Proprietary organic acids

PEL (Malaysia) | Long-term value: 5 mg/m³

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection:

Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

Protection of hands:



Protective gloves

Material of gloves

Nitrile rubber, NBR

Natural rubber, NR

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Safety Glasses with Side Shields Required

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Clear
Odour:	Alcohol-like

pH-value at 20 °C (68 °F): 3.3

Change in condition

Melting point/freezing point	Undetermined.
Initial boiling point and boiling range	82 °C (179.6 °F)

Flash point: 12 °C (53.6 °F)

Ignition temperature: 399 °C (750.2 °F)

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Auto-ignition temperature	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Explosion limits:	
Lower:	2 Vol %
Upper:	12 Vol %
Vapour pressure at 20 °C (68 °F):	43 hPa (32.3 mm Hg)
Density at 20 °C (68 °F):	0.8 g/cm ³ (6.68 lbs/gal)
Solubility in / Miscibility with water:	Fully miscible.
Solvent content:	
Organic solvents:	93.1 %
Water:	4.9 %
Solids content:	2.0 %
Other information	Tiada maklumat lanjut yang diperoleh.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products:
 Possible in traces.
 When heated to soldering temperatures, the solvents are evaporated and organic materials may be thermally degraded to liberate aliphatic aldehydes and acids.

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 67-63-0 isopropanol

Oral	LD50	5,045 mg/kg (rat)
Dermal	LD50	12,800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

Primary irritant effect:

Skin corrosion or irritation No irritant effect.
Serious eye damage or eye irritation Irritating effect.
Respiratory / skin sensitization Sensitisation possible through inhalation.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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Irritant

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12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability Tiadak maklumat lanjut yang diperoleh.

Behaviour in environmental systems:

Bioaccumulative potential Tiadak maklumat lanjut yang diperoleh.

Mobility in soil Tiadak maklumat lanjut yang diperoleh.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects Tiadak maklumat lanjut yang diperoleh.

13 Disposal information

Waste treatment methods

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

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

14 Transportation information

UN-Number

ADR, IMDG, IATA

UN1219

UN proper shipping name

ADR

1219 ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

IMDG, IATA

ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

Transport hazard class(es)

ADR, IMDG, IATA



Class

3 Flammable liquids.

Label

3

Packing group

ADR, IMDG, IATA

II

Environmental hazards:

Marine pollutant:

No

Special precautions for user

Amaran: Flammable liquids.

Danger code (Kemler):

33

EMS Number:

F-E,S-D

Stowage Category

B

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Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:

ADR
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

Transport category 2
Tunnel restriction code D/E

IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation": UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) MIXTURE, 3, II

15 Regulatory information

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

All ingredients are listed on the following Government Inventories:

- China: Inventory of Existing Chemical Substances in China (IECSC)
- Korea: Korea Existing Chemicals List (ECL)
- Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
- Japan: Inventory of Existing and New Chemical Substances (ENCS)
- Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
- USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS02 GHS07

Signal word Danger

Hazard statements

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- P261 Avoid breathing dust/fume/ gas/mist/vapours/spray.
- P280 Wear protective gloves / eye protection.
- P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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16 Other information

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Safety Data Sheet (SDS) relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet (SDS) as a source for hazard information.

Department issuing SDS: Product Compliance / EHS Department**Contact:** EHS_Kester@kester.com**Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity - oral – Category 4

Eye Irrit. 2: Serious eye damage or eye irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**