

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

Tarikh cetak 17.04.2018

Disemak semula pada 17.04.2018

1 Pengenalan bahan kimia berbahaya dan pembekal

Nama dagang: NP545 Lead (Pb) Solder Paste**Kegunaan yang disarankan bagi bahan dan sekatan penggunaan Flux Memateri****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

Bahaya kesihatan

Pem. Naf. 1 H334 Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tersedut.
Kars. 2 H351 Disyaki menyebabkan kanser.
Pemb. 1B H360 Boleh merosakkan kesuburan atau janin.
STOT RE 2 H373 Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.



Toks. Akut 4 H302 Memudaratkan jika tertelan.
Toks. Akut 4 H332 Memudaratkan jika tersedut.
Pem. Kulit 1 H317 Boleh menyebabkan tindak balas alahan kulit.

Melabelkan unsur**Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).**Piktogram hazard**

GHS07 GHS08

(Bersambung ke halaman 2)

MY

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

Tarikh cetak 17.04.2018

Disemak semula pada 17.04.2018

Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 1)

Perkataan isyarat Bahaya

Komponen pelabelan yang menentukan bahaya:

Plumbum
Modified Rosin
Ethoxylated Amines

Pernyataan hazard

H302+H332 Memudaratkan jika tertelan atau tertsedut.
H334 Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tertsedut.
H317 Boleh menyebabkan tindak balas alahan kulit.
H351 Disyaki menyebabkan kanser.
H360 Boleh merosakkan kesuburan atau janin.
H373 Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.

Pernyataan langkah perlindungan

P260 Jangan sedut habuk/wasap/gas/ kabus/wap/semburan.
P264 Basuh sebersih-bersihnya selepas mengendalikan bahan.
P270 Jangan makan, minum atau merokok semasa menggunakan produk ini.
P280 Pakai sarung tangan pelindung/pakaian pelindung/perlindungan mata/perlindungan muka.
P301+P312 JIKA TERTELAN: Hubungi PUSAT RACUN/doktor jika anda rasa tidak sihat.
P302+P352 JIKA TERKENA KULIT: Cuci dengan air yang banyak.
P304+P340 JIKA TERSEDUT: Pindahkan mangsa ke kawasan berudara segar dan biarkan mangsa dalam keadaan rehat supaya mangsa dapat bernafas dengan selesa.
P308+P313 JIKA terdedah atau terkena bahan: Dapatkan nasihat/ rawatan perubatan.
P405 Simpan di tempat berkunci.
P501 Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

Sistem pengelasan:

NFPA ratings (Scale 0 - 4)



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: 7440-31-5	TIN (Sn)		55-70%
CAS: 7439-92-1	Plumbum	⚠ Kars. 2, H351; Pemb. 1B, H360; STOT RE 2, H373 ⚠ Toks. Akut 4, H302; Toks. Akut 4, H332	25-40%
Trade Secret	Modified Rosin	⚠ Pem. Kulit 1, H317	1-3%
Trade Secret	Proprietary Acid	⚠ Kreng. Mata 2, H319	1-3%
CAS: 7440-22-4	Perak		0-3%
Trade Secret	Ethoxylated Amines	⚠ Pem. Naf. 1, H334	1-3%

SVHC

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

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

Tarikh cetak 17.04.2018

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Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 2)

4 Langkah-langkah pertolongan cemas

Keterangan langkah pertolongan cemas**Maklumat am:**

Gejala keracunan boleh berlaku selepas beberapa jam, maka rawatan perubatan hendaklah diberikan sekurang-kurangnya 48 jam selepas kemalangan.

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 tertelan: Segera dapatkan nasihat perubatan.

Maklumat untuk doktor:

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

Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan Tiada maklumat lanjut yang diperolehi.

5 Langkah-langkah pemadaman kebakaran

Bahan pemadam api**Agen pemadam yang sesuai:**

CO₂, serbuk atau semburan air. Padam kebakaran besar dengan semburan air atau busa rintangan alkohol.

Bahaya khusus yang timbul daripada bahan atau campuran 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 Pastikan pengalihudaraan mencukupi.

Langkah perlindungan alam sekitar: Jangan biarkannya memasuki pembentung/air permukaan atau tanah.

Kaedah dan bahan untuk pembendungan dan pembersihan:

Lupuskan bahan tercemar sebagai sisa mengikut perkara 13.

Pastikan pengalihudaraan 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**

Nyahdebu secara menyeluruh.

Elakkan pembentukan debu.

Maklumat kebakaran dan perlindungan daripada letupan: Tiada langkah berjaga-jaga yang khusus diperlukan.

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: Tidak diperlukan.

Maklumat lanjut tentang syarat penyimpanan: Pastikan bekas sentiasa bertutup rapat.

Kegunaan akhir yang khusus Tiada maklumat lanjut yang diperolehi.

MY
(Bersambung ke halaman 4)

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Disemak semula pada 17.04.2018

Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 3)

8 Kawalan pendedahan dan perlindungan diri

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

Parameter kawalan

Ramuan dengan nilai had yang memerlukan pemantauan di tempat kerja:

CAS: 7440-31-5 TIN (Sn)

PEL Nilai jangka panjang: 2 mg/m³
sebagai Sn

CAS: 7439-92-1 Plumbum

PEL Nilai jangka panjang: 0.05 mg/m³
sebagai Pb3

CAS: 7440-22-4 Perak

PEL Nilai jangka panjang: 0.1* 0.01** mg/m³
*Logum **Sebatian terlarutkan, sebagai Ag

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.

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:

Berpes

Warna:

Kelabu perak

Bau:

Lembut

(Bersambung ke halaman 5)

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Disemak semula pada 17.04.2018

Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 4)

Nilai pH:	Tidak berkenaan
Perubahan pada keadaan	
Takat lebur/takat beku	Tidak ditentukan.
Takat didih awal dan julat didih	>999 °C (>1,830.2 °F)
Takat kilat:	Tidak berkenaan
Kemudahbakaran (pepejal, gas)	Tidak ditentukan.
Suhu pengautocucuhan	Produk tidak terucuh sendiri
Bahaya letupan:	Produk tidak ada bahaya letupan.
Tekanan wap:	Tidak berkenaan
Ketumpatan:	Tidak ditentukan.
Ketumpatan wap	Tidak berkenaan
Keterlarutan dalam / Keterlarutcampuran dengan	
Air:	Tidak larut.
Kandungan pelarut:	
Kandungan pepejal:	100.0 %
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: Tiada produk penguraian berbahaya yang diketahui.

11 Maklumat toksikologi

Maklumat tentang kesan toksikologi

Ketoksikan akut:

Nilai LD/LC50 yang berkaitan untuk pengelasan:

CAS: 7439-92-1 Plumbum

Oral	LD50	500 mg/kg (ATE)
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Tersedut	LC50/4 h	1.5 mg/l (ATE)
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Modified Rosin

Oral	LD50	>4,000 mg/kg (Rat)
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Derma	LD50	>2,500 mg/kg (rabbit)
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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.

Pemekaan mungkin berlaku jika terkena kulit.

(Bersambung ke halaman 6)

Helaian Data Keselamatan

menurut P.U.(A) 310/2013

Tarikh cetak 17.04.2018

Disemak semula pada 17.04.2018

Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 5)

Maklumat tambahan toksikologi:

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

Memudaratkan

Perengsa

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.**Mobiliiti 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.

Bahaya kepada air minuman walaupun amat sedikit produk memasuki tanah.

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 pembentungan.

Pembungkusan yang tidak bersih:**Syor:** Pelupusan mestilah dijalankan menurut peraturan rasmi**14 Maklumat pengangkutan****Nombor UN****ADR, ADN, IMDG, IATA**

Tidak sah

Nama penghantaran UN yang betul**ADR, ADN, IMDG, IATA**

Tidak sah

pengangkutan kelas bahaya**ADR, ADN, IMDG, IATA****Kelas**

Tidak sah

Kumpulan pembungkusan**ADR, IMDG, IATA**

Tidak sah

Hazard persekitaran:

Tidak berkenaan

Langkah perlindungan khas untuk pengguna

Tidak berkenaan

Pengangkutan dalam pukat menurut Lampiran II**MARPOL73/78 dan Kod IBC**

Tidak berkenaan

"Peraturan Model" UN:

Tidak sah

(Bersambung ke halaman 7)

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

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Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 6)

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



GHS07 GHS08

Perkataan isyarat Bahaya

Komponen pelabelan yang menentukan bahaya:

Plumbum
Modified Rosin
Ethoxylated Amines

Pernyataan hazard

H302+H332	Memudaratkan jika tertelan atau tertsedut.
H334	Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tertsedut.
H317	Boleh menyebabkan tindak balas alahan kulit.
H351	Disyaki menyebabkan kanser.
H360	Boleh merosakkan kesuburan atau janin.
H373	Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.

Pernyataan langkah perlindungan

P260	Jangan sedut habuk/wasap/gas/ kabus/wap/semburan.
P264	Basuh sebersih-bersihnya selepas mengendalikan bahan.
P270	Jangan makan, minum atau merokok semasa menggunakan produk ini.
P280	Pakai sarung tangan pelindung/pakaian pelindung/perlindungan mata/perlindungan muka.
P301+P312	JIKA TERTELAN: Hubungi PUSAT RACUN/doktor jika anda rasa tidak sihat.
P302+P352	JIKA TERKENA KULIT: Cuci dengan air yang banyak.
P304+P340	JIKA TERSEDUT: Pindahkan mangsa ke kawasan berudara segar dan biarkan mangsa dalam keadaan rehat supaya mangsa dapat bernafas dengan selesa.
P308+P313	JIKA terdedah atau terkena bahan: Dapatkan nasihat/ rawatan perubatan.
P405	Simpan di tempat berkunci.
P501	Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

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

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.

(Bersambung ke halaman 8)

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

Tarikh cetak 17.04.2018

Disemak semula pada 17.04.2018

Nama dagang: NP545 Lead (Pb) Solder Paste

(Sambungan halaman 7)

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

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

Toks. Akut 4: Ketoksikan akut – Kategori 4

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

Pem. Naf. 1: Pemekaan pernafasan – Kategori 1

Pem. Kulit 1: Pemekaan kulit – Kategori 1

Kars. 2: Kekarsinogenan – Kategori 2

Kars. 2: Kekarsinogenan – Kategori 2

Pemb. 1B: Ketoksikan pembiakan – Kategori 1B

STOT RE 2: Ketoksikan organ sasaran khusus (pendedahan berulang) – Kategori 2

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

Safety Data Sheet

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

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

1 Identification of the hazardous chemical and of the supplier

Trade name: NP545 Lead (Pb) Solder Paste**Recommended use of the chemical and restrictions on use** Flux Memateri**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

health hazard

Resp. Sens. 1 H334 May cause allergic or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.

Repr. 1B H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause allergic skin reaction.

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

GHS07 GHS08

Signal word Danger

(Continued on page 2)

MY

Safety Data Sheet
according to P.U.(A) 310/2013

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 1)

Hazard-determining components of labelling:

LEAD (Pb)
Modified Rosin
Ethoxylated Amines

Hazard statements

H302+H332 Harmful if swallowed or inhaled.
H334 May cause allergic or asthma symptoms or breathing difficulties if inhaled.
H317 May cause allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/ vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



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: 7440-31-5	TIN (Sn)		55-70%
CAS: 7439-92-1	LEAD (Pb)	⚠ Carc. 2, H351; Repr. 1B, H360; STOT RE 2, H373 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	25-40%
Trade Secret	Modified Rosin	⚠ Skin Sens. 1, H317	1-3%
Trade Secret	Proprietary Acid	⚠ Eye Irrit. 2, H319	1-3%
CAS: 7440-22-4	SILVER (Ag)		0-3%
Trade Secret	Ethoxylated Amines	⚠ Resp. Sens. 1, H334	1-3%

SVHC

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

(Continued on page 3)

Safety Data Sheet

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

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 2)

4 First-aid measures

Description of first aid measures**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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.

After swallowing: Seek immediate medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

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

Special hazards arising from the substance or mixture 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 Ensure adequate ventilation

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

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**

Thorough dedusting.

Prevent formation of dust.

Information about fire - and explosion protection: No special measures required.

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: Not required.

Further information about storage conditions: Keep container tightly sealed.

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

MY
(Continued on page 4)

Safety Data Sheet
according to P.U.(A) 310/2013

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 3)

8 Exposure controls and personal protection

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

Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7440-31-5 TIN (Sn)

PEL (Malaysia)	Long-term value: 2 mg/m ³ sebagai Sn
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CAS: 7439-92-1 LEAD (Pb)

PEL (Malaysia)	Long-term value: 0.05 mg/m ³ sebagai Pb3
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CAS: 7440-22-4 SILVER (Ag)

PEL (Malaysia)	Long-term value: 0.1 * 0.01** mg/m ³ *Logum **Sebatian terlarutkan, sebagai Ag
----------------	--

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.

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:	Pasty
Colour:	Silver grey
Odour:	Mild

(Continued on page 5)

Safety Data Sheet
according to P.U.(A) 310/2013

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 4)

pH-value:	Not applicable.
Change in condition	
Melting point/freezing point	Undetermined.
Initial boiling point and boiling range	>999 °C (>1,830.2 °F)
Flash point:	Not Applicable
Flammability (solid, gas)	Not determined.
Auto-ignition temperature	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Vapour pressure:	Not applicable.
Density:	Not determined.
Vapour density	Not applicable.
Solubility in / Miscibility with water:	Insoluble.
Solvent content:	
Solids content:	100.0 %
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: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 7439-92-1 LEAD (Pb)

Oral	LD50	500 mg/kg (ATE)
Inhalative	LC50/4 h	1.5 mg/l (ATE)

Modified Rosin

Oral	LD50	>4,000 mg/kg (Rat)
Dermal	LD50	>2,500 mg/kg (rabbit)

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.
 Sensitisation possible through skin contact.

(Continued on page 6)

Safety Data Sheet
according to P.U.(A) 310/2013

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 5)

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:

Harmful
Irritant

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.
Danger to drinking water if even small quantities leak into the ground.

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.

14 Transportation information

UN-Number

ADR, ADN, IMDG, IATA Void

UN proper shipping name

ADR, ADN, IMDG, IATA Void

Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class Void

Packing group

ADR, IMDG, IATA Void

Environmental hazards: Not applicable.

Special precautions for user Not applicable.

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

UN "Model Regulation": Void

Safety Data Sheet

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

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 6)

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



GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

- LEAD (Pb)
- Modified Rosin
- Ethoxylated Amines

Hazard statements

- H302+H332 Harmful if swallowed or inhaled.
- H334 May cause allergic or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause allergic skin reaction.
- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- P260 Do not breathe dust/fume/gas/mist/ vapours/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

(Continued on page 8)

Safety Data Sheet

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

Printing Date: 17.04.2018

Version number 2

Revision: 17.04.2018

Trade name: NP545 Lead (Pb) Solder Paste

(Continued from page 7)

Contact: EHS_Kester@kester.com**Abbreviations and acronyms:**

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

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

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

Resp. Sens. 1: Respiratory sensitization – Category 1

Skin Sens. 1: Skin sensitization – Category 1

Carc. 2: Carcinogenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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