Safety Data Sheet according to Singapore Standard SS 586.

BONDERITE L-GP 325EF ACHESON known as EMRALON 325 EF

SDS No. : 364283
V001.3
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: BONDERITE L-GP 325EF ACHESON known as EMRALON 325 EF

Other means of identification: BONDERITE L-GP 325EF BO1KG AN
Product code: IDH1238762
Recommended use of the chemical and restrictions on use

Intended use: Dry film lubricant
Manufacturer/Importer/Distributor Representative Company

Henkel Singapore Pte Ltd
Science Park Drive 1B
Units 09-31 to 09-35
119315 Singapore

Singapore

Phone: +65 (6266) 0100
Fax-no.: +65 (6266) 1161

E-mail address of person responsible for Safety Data Sheet: ap-ua-psra.sea@henkel.com

Emergency Telephone for Chemical Accidents: FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call: +65 6424 7016

Section 2. Hazards identification

GHS Classification:

Hazard Class	Hazard Category	Target organ
Flammable liquids	Category 2	
Serious eye damage/eye irritation	Category 1	
Specific target organ toxicity - single exposure	Category 3	Central nervous system

GHS label elements:

Hazard pictogram:



Signal word: Danger

Hazard statement:	H225 Highly flammable liquid and vapour. H318 Causes serious eye damage. H336 May cause drowsiness or dizziness.
Precaution:	
Prevention:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P403+P235 Store in a well-ventilated place. Keep cool.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Section 3. Composition / information on ingredients

Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Ethyl acetate 141-78-6	30- 60 %	Flammable liquids 2 H225 Serious eye irritation 2B H320 Target Organ Systemic Toxicant - Single exposure 3 H336
n-butyl acetate 123-86-4	10- 30 %	Flammable liquids 3 H226 Target Organ Systemic Toxicant - Single exposure 3 H336
cellulose nitrate 9004-70-0	1- 10 %	Explosive. 1.1 H201
Ethene, tetrafluoro-, homopolymer 9002-84-0	1- 10 %	
butan-1-ol 71-36-3	1- 10 %	Flammable liquids 3 H226 Acute toxicity 4; Oral H302 Skin irritation 2 H315 Serious eye damage/eye irritation 1 H318 Target Organ Systemic Toxicant - Single exposure 3 H335, H336
Propan-2-ol 67-63-0	1- 10 %	Flammable liquids 2 H225 Serious eye irritation 2 H319 Target Organ Systemic Toxicant - Single exposure 3 H336

Section 4. First aid measures

Inhalation: Move to fresh air, consult doctor if complaint persists.

Skin contact: Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.
In case of adverse health effects seek medical advice.

Eye contact: Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remain (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion: Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

Indication of immediate medical attention and special treatment needed: See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media: Carbon dioxide, foam, powder
Fine water spray

Improper extinguishing media: Water jet (solvent-containing product).

Specific hazards arising from the chemical:	Formation of toxic gases is possible during heating or in fires.
Special protection equipment and precautions for firefighters:	Wear protective equipment. Wear self-contained breathing apparatus.
Additional fire fighting advice:	Cool endangered containers with water spray jet.

Section 6. Accidental release measures

Personal precautions:	Avoid skin and eye contact. Danger of slipping on spilled product. See advice in section 8
Environmental precautions:	Do not empty into drains / surface water / ground water.
Clean-up methods:	Take up with liquid-absorbing material (sand). Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:	Avoid skin and eye contact. Ensure that workrooms are adequately ventilated. See advice in section 8 Ground and bond all equipment as required (when transferring products). Use non-sparking tools when opening or closing containers. Take measures to prevent the build-up of electrostatic charges. Keep away from sources of ignition - no smoking.
Storage:	Ensure good ventilation/extraction.Storage at 8 to 28°C is recommended.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

ETHYL ACETATE 141-78-6	**Value type**	Time Weighted Average (TWA):
	ppm	400
	Remarks	ACGIH
ETHYL ACETATE 141-78-6	**Value type**	Time Weighted Average (TWA):
	ppm	400
	mg/m³	1,440
	Remarks	SG OEL
N-BUTYL ACETATE 123-86-4	**Value type**	Time Weighted Average (TWA):
	ppm	150
	mg/m³	713
	Remarks	SG OEL
N-BUTYL ACETATE 123-86-4	**Value type**	Time Weighted Average (TWA):
	ppm	50
	Remarks	ACGIH
N-BUTYL ACETATE 123-86-4	**Value type**	Short Term Exposure Limit (STEL):
	ppm	150
	Remarks	ACGIH
N-BUTYL ACETATE 123-86-4	**Value type**	Short Term Exposure Limit (STEL):
	ppm	200
	mg/m³	950
	Remarks	SG OEL
N-BUTANOL 71-36-3	**Value type**	Time Weighted Average (TWA):
	ppm	20
	Remarks	ACGIH
N-BUTANOL 71-36-3	**Value type**	Short Term Exposure Limit (STEL):
	ppm	50
	mg/m³	152
	Remarks	SG OEL
2-PROPANOL 67-63-0	**Value type**	Time Weighted Average (TWA):
	ppm	200
	Remarks	ACGIH
ISOPROPYL ALCOHOL 67-63-0	**Value type**	Time Weighted Average (TWA):
	ppm	400
	mg/m³	983
	Remarks	SG OEL
2-PROPANOL 67-63-0	**Value type**	Short Term Exposure Limit (STEL):
	ppm	400
	Remarks	ACGIH
ISOPROPYL ALCOHOL 67-63-0	**Value type**	Short Term Exposure Limit (STEL):
	ppm	500
	mg/m³	1,230
	Remarks	SG OEL

Respiratory protection: In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

Hand protection: Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or

splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection: Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Body protection: Suitable protective clothing
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Engineering controls: Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

General protection and hygiene measures: The workplace should be equipped with an emergency shower and eye-rinsing facility.

Hygienic measures: Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Take off contaminated clothing and wash before reuse.

Section 9. Physical and chemical properties

Appearance:	Off white liquid
Odor:	Solvent
Odor threshold (CA):	No data available.
pH:	Not applicable, Product is non-soluble (in water).
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	No data available.
Boiling point:	77 °C (170.6 °F)
Flash point: (no method / method unknown)	-7 °C (19.4 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Lower explosive limit:	1.2 %(V)
Upper explosive limit:	11.5 %(V)
Vapor pressure: (no method / method unknown; 50 °C (122 °F)no method / method unknown; 55 °C (131 °F); 20 °C (68 °F))	300 hPa 280 mbar 73 hPa
Vapor density:	3
Density:	0.98 g/cm3
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not available.
Decomposition temperature:	No data available.
Viscosity:	260 - 400 mPa.s (Brookfield; Instrument: RVT; 20 °C (68 °F); speed of rotation: 20 min-1; Method: no method / method unknown)
VOC content:	No data available.

Section 10. Stability and reactivity

Reactivity/Incompatible materials: Reaction with strong oxidants.

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: No decomposition if used according to specifications.

Hazardous decomposition products: None if used for intended purpose.
In case of fire toxic gases can be released.

Section 11. Toxicological information

Oral toxicity: Acute toxicity estimate (ATE) : > 2,000 mg/kg
Method: Calculation method

Symptoms of Overexposure**:** After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).
Vapors may cause drowsiness and dizziness.
Repeated exposure may cause skin dryness or cracking.

Acute oral toxicity:

Ethyl acetate 141-78-6	Value type	LD50
	Value	6,100 mg/kg
	Species	rat
	Method	not specified
n-butyl acetate 123-86-4	Value type	LD50
	Value	10,760 mg/kg
	Species	rat
	Method	OECD Guideline 423 (Acute Oral toxicity)
cellulose nitrate 9004-70-0	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	LD50
	Value	4,230 mg/kg
	Species	rat
	Method	not specified
butan-1-ol 71-36-3	Value type	LD50
	Value	790 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Propan-2-ol 67-63-0	Value type	LD50
	Value	5,840 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Ethyl acetate 141-78-6	Value type	LC50
	Value	57.7 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified
Ethyl acetate 141-78-6	Value type	LC50
	Value	> 22.5 mg/l
	Exposure time	6 h
	Species	rat
	Method	other guideline:
n-butyl acetate 123-86-4	Value type	LC50
	Value	> 23.4 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)
Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	Acute toxicity estimate (ATE)
	Value	> 5 mg/l
	Exposure time	
	Species	
	Method	Expert judgement
butan-1-ol 71-36-3	Value type	LC50
	Value	> 17.76 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Ethyl acetate 141-78-6	Value type	LD50
	Value	> 20,000 mg/kg
	Species	rabbit
	Method	Draize Test
n-butyl acetate 123-86-4	Value type	LD50
	Value	> 14,112 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	Acute toxicity estimate (ATE)
	Value	> 5,000 mg/kg
	Species	
	Method	Expert judgement
butan-1-ol 71-36-3	Value type	LD50
	Value	3,430 mg/kg
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Propan-2-ol 67-63-0	Value type	LD50
	Value	12,870 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Ethyl acetate 141-78-6	Result	slightly irritating
	Exposure time	24 h
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
n-butyl acetate 123-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
butan-1-ol 71-36-3	Result	irritating
	Exposure time	2 h

	Species	rabbit
	Method	not specified
Propan-2-ol 67-63-0	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Ethyl acetate 141-78-6	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
n-butyl acetate 123-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
butan-1-ol 71-36-3	Result	Category 1 (irreversible effects on the eye)
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Propan-2-ol 67-63-0	Result	Category 2A (irritating to eyes)
	Exposure time	
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Ethyl acetate 141-78-6	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
n-butyl acetate 123-86-4	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	not specified
butan-1-ol 71-36-3	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Propan-2-ol 67-63-0	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Ethyl acetate 141-78-6	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethyl acetate 141-78-6	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Ethyl acetate 141-78-6	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	hamster, Chinese
	Method	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
n-butyl acetate 123-86-4	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
n-butyl acetate 123-86-4	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
n-butyl acetate 123-86-4	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
butan-1-ol 71-36-3	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	Ames Test
butan-1-ol 71-36-3	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
butan-1-ol 71-36-3	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	without
	Method	not specified
butan-1-ol 71-36-3	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Propan-2-ol 67-63-0	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Propan-2-ol 67-63-0	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Propan-2-ol 67-63-0	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

Ethyl acetate 141-78-6	Result	NOAEL=900 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
n-butyl acetate 123-86-4	Result	NOAEL=125 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	6 (interim sacrifice) or 13 wdaily
	Species	rat
	Method	EPA OTS 798.2650 (90-Day Oral Toxicity in Rodents)
butan-1-ol 71-36-3	Result	NOAEL=125 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 wdaily
	Species	rat
	Method	not specified
Propan-2-ol 67-63-0	Result	
	Route of application	inhalation: vapour
	Exposure time / Frequency of treatment	104 w6 h/d, 5 d/w
	Species	rat
	Method	OECD Guideline 451 (Carcinogenicity Studies)

Section 12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity:

Toxicity:

Ethyl acetate 141-78-6	Value type	LC50
	Value	220 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	other guideline:
Ethyl acetate 141-78-6	Value type	EC50
	Value	164 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia cucullata
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethyl acetate 141-78-6	Value type	EC50
	Value	> 2,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	2,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethyl acetate 141-78-6	Value type	EC10
	Value	2,900 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	18 h

	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
n-butyl acetate 123-86-4	Value type	LC50
	Value	18 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
n-butyl acetate 123-86-4	Value type	EC50
	Value	44 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia sp.
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
n-butyl acetate 123-86-4	Value type	EC50
	Value	674.7 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	295.5 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
n-butyl acetate 123-86-4	Value type	IC50
	Value	356 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	40 h
	Species	Ciliate (Tetrahymena pyriformis)
	Method	other guideline:
cellulose nitrate 9004-70-0	Value type	LC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
cellulose nitrate 9004-70-0	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
cellulose nitrate 9004-70-0	Value type	EC50
	Value	> 90,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Scenedesmus sp.
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
cellulose nitrate 9004-70-0	Value type	EC0
	Value	1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	not specified
	Method	not specified
Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	LC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	
	Method	Weight of evidence
Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	
	Method	Weight of evidence

Ethene, tetrafluoro-, homopolymer 9002-84-0	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	
	Method	Weight of evidence
butan-1-ol 71-36-3	Value type	LC50
	Value	1,376 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
butan-1-ol 71-36-3	Value type	EC50
	Value	1,328 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
butan-1-ol 71-36-3	Value type	EC50
	Value	225 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	129 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
butan-1-ol 71-36-3	Value type	EC10
	Value	2,476 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	17 h
	Species	Pseudomonas putida
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Propan-2-ol 67-63-0	Value type	LC50
	Value	> 9,640 - 10,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Propan-2-ol 67-63-0	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	1,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propan-2-ol 67-63-0	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

Persistence and degradability:

Ethyl acetate 141-78-6	Result	readily biodegradable
	Route of application	aerobic
	Degradability	100 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

n-butyl acetate 123-86-4	Result	readily biodegradable
	Route of application	aerobic
	Degradability	83 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
cellulose nitrate 9004-70-0	Result	readily biodegradable
	Route of application	aerobic
	Degradability	> 60 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
butan-1-ol 71-36-3	Result	readily biodegradable
	Route of application	aerobic
	Degradability	70 - 81 %
	Method	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)
Propan-2-ol 67-63-0	Result	readily biodegradable
	Route of application	aerobic
	Degradability	70 - 84 %
	Method	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)

Bioaccumulative potential / Mobility in soil:

Ethyl acetate 141-78-6	Bioconcentration factor (BCF)	30
	Exposure time	3 d
	Species	Leuciscus idus melanotus
	Temperature	22.5 °C
	Method	other guideline:
Ethyl acetate 141-78-6	LogPow	0.68
	Temperature	25 °C
	Method	EPA OPPTS 830.7560 (Partition Coefficient, n-octanol / H2O, Generator Column Method)
n-butyl acetate 123-86-4	LogPow	2.3
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
butan-1-ol 71-36-3	LogPow	1
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Propan-2-ol 67-63-0	LogPow	0.05
	Temperature	
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Section 13. Disposal considerations

Product

Method of disposal: Dispose of in accordance with local and national regulations.

Packaging

Disposal of uncleaned packages: Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Section 14. Transport information

Road transport ADR:

Class:	3
Packing group:	II
Classification code:	F1
Hazard ident. number:	33
UN no.:	1263
Label:	3
Technical name:	PAINT
Additional information:	Special provision 640D

Railroad transport RID:

Class:	3
Packing group:	II
Classification code:	F1
Hazard ident. number:	33
UN no.:	1263
Label:	3
Technical name:	PAINT
Additional information:	Special provision 640D

Inland water transport ADN:

Class:	3
Packing group:	II
Classification code:	F1
Hazard ident. number:	33
UN no.:	1263
Label:	3
Technical name:	PAINT
Additional information:	Special provision 640D

Marine transport IMDG:

Class:	3
Packing group:	II
UN no.:	1263
Label:	3
EmS:	F-E ,S-E
Seawater pollutant:	-
Proper shipping name:	PAINT

Air transport IATA:

Class:	3
Packing group:	II
Packaging instructions (passenger):	353
Packaging instructions (cargo):	364
UN no.:	1263
Label:	3
Proper shipping name:	Paint

Section 15. Regulatory information

Regulatory Information: Workplace Safety And Health Act (Chapter 354A, Section 40B) Workplace Safety And Health (Approved Codes of Practice) Notification 2020.
Workplace Safety And Health Act (Chapter 354A, Section 65) Workplace Safety And Health (General Provisions) (Amendment No.2) Regulations 2024

Global inventory status:

Regulatory list	Notification
TCSI	yes
TSCA	yes
DSL	yes
ENCS (JP)	yes
ISHL (JP)	yes
KECI (KR)	yes
PICCS (PH)	yes
IECSC	yes

Section 16. Other information

Disclaimer:

This Safety Data Sheet has been generated based on Workplace Safety And Health Act (Chapter 354A, Section 40B) Workplace Safety And Health (Approved Codes of Practice) Notification 2020 and Workplace Safety And Health Act (Chapter 354A, Section 65) Workplace Safety And Health (General Provisions) (Amendment No.2) Regulations 2024 only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.
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