



Safety Data Sheet according to Singapore Standard SS 586.

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LOCTITE EDAG 440 AS E&C known as ELECTRODAG
440 AS 5 KG

SDS No. : 364241

V001.7

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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: LOCTITE EDAG 440 AS E&C known as ELECTRODAG 440 AS 5 KG

Other means of identification: LOCTITE EDAG 440 AS 5KG E&C

Product code: IDH1238804

Recommended use of the chemical and restrictions on use

Intended use: EMC product

Manufacturer/Importer/Distributor Representative Company

Henkel Singapore Pte Ltd

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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:

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Target organ</u>
Flammable liquids	Category 2	
Skin sensitizer	Category 1	
Carcinogenicity	Category 2	
Toxic to reproduction	Category 2	
Specific target organ toxicity - single exposure	Category 3	Central nervous system
Specific target organ toxicity - repeated exposure	Category 1	respiratory tract
Chronic hazards to the aquatic environment	Category 3	

GHS label elements:

Hazard pictogram:



Signal word:

Danger

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Hazard statement:	H225 Highly flammable liquid and vapour. H317 May cause an allergic skin reaction. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Precaution:	
Prevention:	P201 Obtain special instructions before use. 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. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. 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. P308+P313 IF exposed or concerned: Get medical advice/attention. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P363 Wash contaminated clothing before reuse. 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
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Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Nickel 7440-02-0	30- 60 %	Skin Sensitization 1 H317 Carcinogenicity 2 H351 Target Organ Systemic Toxicant - Repeated exposure 1 H372
n-butyl acetate 123-86-4	10- 30 %	Flammable liquids 3 H226 Target Organ Systemic Toxicant - Single exposure 3 H336
Propanol, 1(or 2)-ethoxy- 52125-53-8	1- 10 %	Flammable liquids 3 H226 Serious eye irritation 2 H319 Target Organ Systemic Toxicant - Single exposure 3 H336
Toluene 108-88-3	1- 10 %	Flammable liquids 2 H225 Skin irritation 2 H315 Reproductive toxicant. 2 H361 Target Organ Systemic Toxicant - Single exposure 3 H336 Target Organ Systemic Toxicant - Repeated exposure 2; Inhalation H373 Aspiration hazard 1 H304
Ethanol 64-17-5	1- 10 %	Flammable liquids 2 H225 Serious eye irritation 2 H319
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	1- 10 %	
Xylene - mixture of isomers 1330-20-7	1- 10 %	Flammable liquids 3 H226 Acute toxicity 4; Inhalation H332 Acute toxicity 4; Dermal H312 Skin irritation 2 H315 Serious eye irritation 2B H320 Target Organ Systemic Toxicant - Single exposure 3 H335 Target Organ Systemic Toxicant - Repeated exposure 2 H373 Aspiration hazard 1 H304
methyl methacrylate 80-62-6	0.1- 1 %	Flammable liquids 2 H225 Skin irritation 2 H315 Skin Sensitization 1B H317 Target Organ Systemic Toxicant - Single exposure 3 H335

Section 4. First aid measures

Inhalation:	Move to fresh air. Seek medical attention from a specialist.
Skin contact:	IF ON SKIN: Wash with plenty of soap and water.
Eye contact:	Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.
Ingestion:	Immediate medical treatment necessary.
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:	High pressure waterjet
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. Ensure adequate ventilation. Danger of slipping on spilled product. Wear protective equipment. See advice in section 8
Environmental precautions:	Do not empty into drains / surface water / ground water. Do not allow to enter the ground / soil.
Clean-up methods:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:	Ensure that workrooms are adequately ventilated. Avoid skin and eye contact. See advice in section 8 Avoid naked flames, sparking and sources of ignition. Take measures to prevent the build-up of electrostatic charges.
Storage:	Ensure good ventilation/extraction. Temperatures between + 5 °C and + 40 °C.

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Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

NICKEL, ELEMENTAL, INHALABLE FRACTION 7440-02-0	Value type	Time Weighted Average (TWA):
	mg/m ³	1.5
	Remarks	ACGIH
NICKEL, METAL 7440-02-0	Value type	Time Weighted Average (TWA):
	mg/m ³	1
	Remarks	SG OEL
N-BUTYL ACETATE 123-86-4	Value type	Time Weighted Average (TWA):
	ppm	150
	mg/m ³	713
	Remarks	SG OEL
Butyl acetates, all isomers 123-86-4	Value type	Short Term Exposure Limit (STEL):
	ppm	150
	Remarks	ACGIH
Butyl acetates, all isomers 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	200
	mg/m ³	950
	Remarks	SG OEL
Toluene (Toluol) 108-88-3	Value type	Time Weighted Average (TWA):
	ppm	50
	mg/m ³	188
	Remarks	SG OEL
Toluene 108-88-3	Value type	Time Weighted Average (TWA):
	ppm	20
	Remarks	ACGIH
ETHANOL 64-17-5	Value type	Short Term Exposure Limit (STEL):
	ppm	1,000
	Remarks	ACGIH
ETHANOL (ETHYL ALCOHOL) 64-17-5	Value type	Time Weighted Average (TWA):
	ppm	1,000
	mg/m ³	1,880
	Remarks	SG OEL
NUISANCE PARTICULATES 68611-44-9	Value type	Time Weighted Average (TWA):
	mg/m ³	10
	Remarks	SG OEL
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles 68611-44-9	Value type	Time Weighted Average (TWA):
	mg/m ³	3
	Remarks	ACGIH
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles 68611-44-9	Value type	Time Weighted Average (TWA):
	mg/m ³	10
	Remarks	ACGIH
XYLENE 1330-20-7	Value type	Time Weighted Average (TWA):
	ppm	100
	mg/m ³	434

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	Remarks	SG OEL
Xylene (all isomers) 1330-20-7	Value type	Time Weighted Average (TWA):
	ppm	20
	Remarks	ACGIH
XYLENE 1330-20-7	Value type	Short Term Exposure Limit (STEL):
	ppm	150
	mg/m³	651
	Remarks	SG OEL
METHYL METHACRYLATE 80-62-6	Value type	Time Weighted Average (TWA):
	ppm	50
	Remarks	ACGIH
METHYL METHACRYLATE 80-62-6	Value type	Time Weighted Average (TWA):
	ppm	100
	mg/m³	410
	Remarks	SG OEL
METHYL METHACRYLATE 80-62-6	Value type	Short Term Exposure Limit (STEL):
	ppm	100
	Remarks	ACGIH

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): Fluorinated rubber (FKM; ≥ 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Fluorinated rubber (FKM; ≥ 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:

Protective clothing that covers arms and legs.
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:

Gray / Grey
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:	2.025
Boiling point:	> 100 °C (> 212 °F)
Flash point:	17 °C (62.6 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Lower explosive limit:	1.2 %(V)
Upper explosive limit:	19.0 %(V)
Vapor pressure:	< 30 hPa
(; 20 °C (68 °F); 50 °C (122 °F))	< 150 hPa
Vapor density:	> 1
Density:	2.025 g/cm ³
Solubility:	Insoluble (20 °C)
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	No data available.
Decomposition temperature:	No data available.
Viscosity:	4,500 - 7,000 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. Reaction with strong acids.
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

Inhalative toxicity:	Acute toxicity estimate (ATE) : > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Dermal toxicity:	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method

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Health Effects:

Skin: May cause an allergic skin reaction.
Inhalation: Vapours may cause drowsiness and dizziness.
Symptoms of Overexposure: Prolonged or repeated contact may cause skin irritation.

Acute oral toxicity:

Nickel 7440-02-0	Value type	LD50
	Value	> 9,000 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
n-butyl acetate 123-86-4	Value type	LD50
	Value	10,760 mg/kg
	Species	rat
	Method	OECD Guideline 423 (Acute Oral toxicity)
Propanol, 1(or 2)-ethoxy- 52125-53-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Toluene 108-88-3	Value type	LD50
	Value	5,580 mg/kg
	Species	rat
	Method	EU Method B.1 (Acute Toxicity (Oral))
Ethanol 64-17-5	Value type	LD50
	Value	10,470 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Xylene - mixture of isomeres 1330-20-7	Value type	LD50
	Value	3,523 mg/kg
	Species	rat
	Method	EU Method B.1 (Acute Toxicity (Oral))
Xylene - mixture of isomeres 1330-20-7	Value type	Acute toxicity estimate (ATE)
	Value	3,523 mg/kg
	Species	
	Method	Expert judgement
methyl methacrylate 80-62-6	Value type	LD50
	Value	9,400 mg/kg
	Species	rat
	Method	not specified

Acute inhalative toxicity:

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)
Toluene 108-88-3	Value type	LC50
	Value	28.1 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Ethanol 64-17-5	Value type	LC50
	Value	124.7 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)
Xylene - mixture of isomers 1330-20-7	Value type	LC50
	Value	11 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Value type	Acute toxicity estimate (ATE)
	Value	11 mg/l
	Exposure time	
	Species	
	Method	Expert judgement
methyl methacrylate 80-62-6	Value type	LC50
	Value	29.8 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified

Acute dermal toxicity:

n-butyl acetate 123-86-4	Value type	LD50
	Value	> 14,112 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Propanol, 1(or 2)-ethoxy- 52125-53-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Toluene 108-88-3	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Ethanol 64-17-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Xylene - mixture of isomers 1330-20-7	Value type	LD50
	Value	1,700 mg/kg
	Species	rabbit
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Value type	Acute toxicity estimate (ATE)
	Value	1,700 mg/kg
	Species	
	Method	Expert judgement
methyl methacrylate	Value type	LD50

80-62-6	Value	> 5,000 mg/kg
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

n-butyl acetate 123-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Toluene 108-88-3	Result	irritating
	Exposure time	4 h
	Species	rabbit
	Method	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
Ethanol 64-17-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Result	moderately irritating
	Exposure time	
	Species	rabbit
	Method	not specified

Serious eye damage/irritation:

n-butyl acetate 123-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Toluene 108-88-3	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Ethanol 64-17-5	Result	irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

n-butyl acetate 123-86-4	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	not specified
Toluene 108-88-3	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	EU Method B.6 (Skin Sensitisation)
Ethanol 64-17-5	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Ethanol 64-17-5	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not sensitising
	Test type	Patch-Test
	Species	human
	Method	human repeat insult patch test
Xylene - mixture of isomers 1330-20-7	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
methyl methacrylate 80-62-6	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

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)
Toluene 108-88-3	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	EU Method B.13/14 (Mutagenicity)
Toluene 108-88-3	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)
Toluene 108-88-3	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	rat
	Method	not specified
Toluene 108-88-3	Result	negative
	Type of study / Route of administration	inhalation: vapour
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
Ethanol 64-17-5	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethanol 64-17-5	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Ethanol 64-17-5	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)
Ethanol 64-17-5	Result	negative
	Type of study / Route of administration	
	Metabolic activation / Exposure time	
	Species	
	Method	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	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
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	Chromosome Aberration Test
Xylene - mixture of isomers 1330-20-7	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)
Xylene - mixture of isomeres 1330-20-7	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	EU Method B.10 (Mutagenicity)
Xylene - mixture of isomeres 1330-20-7	Result	negative
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	EU Method B.19 (Sister Chromatid Exchange Assay In Vitro)
Xylene - mixture of isomeres 1330-20-7	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
methyl methacrylate 80-62-6	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified

Repeated dose toxicity:

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)
Toluene 108-88-3	Result	NOAEL=625 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	13 wdaily, 5 d/w
	Species	rat
	Method	EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Toluene 108-88-3	Result	NOAEL=1131 mg/m3
	Route of application	inhalation: vapour
	Exposure time / Frequency of treatment	24 m6.5 h/d, 5 d/w
	Species	rat
	Method	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Toluene 108-88-3	Result	NOAEL=2355 mg/m3
	Route of application	inhalation: vapour
	Exposure time / Frequency of treatment	15 w6.5 h/d, 5 d/w
	Species	rat
	Method	EU Method B.29 (Sub-Chronic Inhalation Toxicity Test: 90-Day Repeated Inhalation Dose Study Using Rodent Species)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	NOAEL=500 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	5-8 wdaily
	Species	rat
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Result	NOAEL=150 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Xylene - mixture of isomers 1330-20-7	Result	LOAEL=150 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
methyl methacrylate 80-62-6	Result	LOAEL=2000 ppm
	Route of application	inhalation
	Exposure time / Frequency of treatment	14 weeks6 hrs/day, 5 days/wk
	Species	mouse
	Method	Dose Range Finding Study
methyl methacrylate 80-62-6	Result	NOAEL=1000 ppm
	Route of application	inhalation
	Exposure time / Frequency of treatment	14 weeks6 hrs/day, 5 days/wk
	Species	mouse
	Method	Dose Range Finding Study

Section 12. Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

Ecotoxicity:

H412 Harmful to aquatic life with long lasting effects.

Toxicity:

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:
Propanol, 1(or 2)-ethoxy- 52125-53-8	Value type	LC50
	Value	> 5 mg/l
	Acute Toxicity Study	Fish
	Exposure time	24 h
	Species	Salmo gairdneri (new name: Oncorhynchus mykiss)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Propanol, 1(or 2)-ethoxy- 52125-53-8	Value type	EC0
	Value	> 10 mg/l
	Acute Toxicity Study	Algae
	Exposure time	
	Species	
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propanol, 1(or 2)-ethoxy- 52125-53-8	Value type	EC10
	Value	4,600 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	
	Species	
	Method	not specified
Toluene 108-88-3	Value type	NOEC
	Value	3.2 mg/l
	Acute Toxicity Study	Fish
	Exposure time	28 d
	Species	Cyprinodon variegatus
	Method	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
	Value type	LC50
	Value	5.5 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus kisutch
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Toluene 108-88-3	Value type	EC50
	Value	3.78 mg/l
	Acute Toxicity Study	Daphnia

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		Exposure time	48 h
		Species	Ceriodaphnia dubia
		Method	other guideline:
Toluene 108-88-3		Value type	IC50
		Value	12 mg/l
		Acute Toxicity Study	Algae
		Exposure time	72 h
		Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
		Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Toluene 108-88-3		Value type	NOEC
		Value	29 mg/l
		Acute Toxicity Study	Bacteria
		Exposure time	16 h
		Species	Pseudomonas putida
		Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Ethanol 64-17-5		Value type	LC50
		Value	14,200 mg/l
		Acute Toxicity Study	Fish
		Exposure time	96 h
		Species	Pimephales promelas
		Method	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
		Value type	NOEC
		Value	250 mg/l
		Acute Toxicity Study	Fish
		Exposure time	120 h
		Species	Danio rerio
		Method	OECD Guideline 212 (Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages)
Ethanol 64-17-5		Value type	EC50
		Value	5,012 mg/l
		Acute Toxicity Study	Daphnia
		Exposure time	48 h
		Species	Ceriodaphnia dubia
		Method	other guideline:
Ethanol 64-17-5		Value type	EC50
		Value	275 mg/l
		Acute Toxicity Study	Algae
		Exposure time	72 h
		Species	Chlorella vulgaris
		Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
		Value type	EC10
		Value	11.5 mg/l
		Acute Toxicity Study	Algae
		Exposure time	72 h
		Species	Chlorella vulgaris
		Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethanol 64-17-5		Value type	IC50
		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)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9		Value type	LC50
		Value	> 10,000 mg/l
		Acute Toxicity Study	Fish
		Exposure time	96 h
		Species	Brachydanio rerio (new name: Danio rerio)
		Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9		Value type	EC50
		Value	> 10,000 mg/l
		Acute Toxicity Study	Daphnia
		Exposure time	24 h
		Species	Daphnia magna
		Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Xylene - mixture of isomers 1330-20-7		Value type	LC50
		Value	2.6 mg/l
		Acute Toxicity Study	Fish
		Exposure time	96 h

	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	NOEC
	Value	0.714 mg/l
	Acute Toxicity Study	Fish
	Exposure time	35 d
	Species	Danio rerio
	Method	OECD Guideline 210 (fish early life stage toxicity test)
Xylene - mixture of isomeres 1330-20-7	Value type	EC50
	Value	3.1 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Xylene - mixture of isomeres 1330-20-7	Value type	EC50
	Value	4.36 mg/l
	Acute Toxicity Study	Algae
	Exposure time	73 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	1.9 mg/l
	Acute Toxicity Study	Algae
	Exposure time	73 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
methyl methacrylate 80-62-6	Value type	LC50
	Value	350 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Leuciscus idus
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
methyl methacrylate 80-62-6	Value type	EC50
	Value	69 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
methyl methacrylate 80-62-6	Value type	EC50
	Value	170 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	100 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)
methyl methacrylate 80-62-6	Value type	EC20
	Value	> 150 - 200 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	activated sludge, domestic
	Method	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

Persistence and degradability:

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)
Propanol, 1(or 2)-ethoxy- 52125-53-8	Result	readily biodegradable
	Route of application	

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	Degradability	67 - 79 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Toluene 108-88-3	Result	readily biodegradable
	Route of application	aerobic
	Degradability	80 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Ethanol 64-17-5	Result	readily biodegradable
	Route of application	aerobic
	Degradability	80 - 85 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Xylene - mixture of isomers 1330-20-7	Result	readily biodegradable
	Route of application	aerobic
	Degradability	90 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
methyl methacrylate 80-62-6	Result	readily biodegradable
	Route of application	aerobic
	Degradability	94 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

Bioaccumulative potential / Mobility in soil:

n-butyl acetate 123-86-4	LogPow	2.3
	Temperature	25 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Toluene 108-88-3	Bioconcentration factor (BCF)	90
	Exposure time	3 d
	Species	Leuciscus idus melanotus
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Toluene 108-88-3	LogPow	2.73
	Temperature	20 °C
	Method	EU Method A.8 (Partition Coefficient)
Ethanol 64-17-5	LogPow	-0.35
	Temperature	24 °C
	Method	not specified
Xylene - mixture of isomers 1330-20-7	Bioconcentration factor (BCF)	25.9
	Exposure time	56 d
	Species	Oncorhynchus mykiss
	Method	not specified
Xylene - mixture of isomers 1330-20-7	LogPow	3.16
	Temperature	20 °C
	Method	not specified
methyl methacrylate 80-62-6	LogPow	1.38
	Temperature	20 °C
	Method	other guideline:

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.:	1993
Label:	3
Technical name:	FLAMMABLE LIQUID, N.O.S. (n-Butylacetate,Toluene)
Additional information:	Special provision 640D

Railroad transport RID:

Class:	3
Packing group:	II
Classification code:	F1
Hazard ident. number:	33
UN no.:	1993
Label:	3
Technical name:	FLAMMABLE LIQUID, N.O.S. (n-Butylacetate,Toluene)
Additional information:	Special provision 640D

Inland water transport ADN:

Class:	3
Packing group:	II
Classification code:	F1
Hazard ident. number:	33
UN no.:	1993
Label:	3
Technical name:	FLAMMABLE LIQUID, N.O.S. (n-Butylacetate,Toluene)
Additional information:	Special provision 640D

Marine transport IMDG:

Class:	3
Packing group:	II
UN no.:	1993
Label:	3
EmS:	F-E ,S-E
Seawater pollutant:	-
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (n-Butylacetate,Toluene)

Air transport IATA:

Class:	3
Packing group:	II
Packaging instructions (passenger):	353
Packaging instructions (cargo):	364
UN no.:	1993
Label:	3
Proper shipping name:	Flammable liquid, n.o.s. (n-Butylacetate,Toluene)

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
KECI (KR)	yes
PICCS (PH)	yes
IECSC	yes
NZIOC	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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