

Duall-88 /HDWHUGHLH

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Duall-88 Leather Adhesive

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acetone (67-64-1)	
Remark (ACGIH)	TLV® Basis: URT & eye irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Acetone
OSHA PEL (TWA) [1]	2400 mg/m ³
OSHA PEL (TWA) [2]	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Component A (trade secret)	
No additional information available	
Toluene (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Toluene
OSHA PEL (TWA) [2]	200 ppm
OSHA PEL C [ppm]	300 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
Heptane (142-82-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Heptane, isomers (n-Heptane)
ACGIH OEL TWA [ppm]	400 ppm
ACGIH OEL STEL [ppm]	500 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; URT irr
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Heptane (n-Heptane)
OSHA PEL (TWA) [1]	2000 mg/m ³
OSHA PEL (TWA) [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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Component C (trade secret)	
No additional information available	
Ethyl acetate (141-78-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethyl acetate
ACGIH OEL TWA [ppm]	400 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl acetate
OSHA PEL (TWA) [1]	1400 mg/m ³
OSHA PEL (TWA) [2]	400 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation. Handle in accordance with good industrial hygiene and safety procedures. Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	: Avoid release to the environment. Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Personal protective equipment should be chosen according to the NIOSH standards and in discussion with the supplier of the protective equipment.

Hand protection:

Chemical resistant gloves (according to NIOSH standard). Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Selection of protective gloves should be made based on the type of task performed

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing. Skin protection appropriate to the conditions of use should be provided

Respiratory protection:

Where excessive vapor, mist, or dust may result, use approved respiratory protection equipment. All respirators must conform to specifications for efficiency and performance indicated by OSHA Standard 29 CFR 1910.134 and NIOSH Standards

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: amber
Odor	: characteristic solvent-like

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Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: > 35 °C (95.0 °F)
Flash point	: -7.78 °C (18 °F, ASTM D-56 9/21/2008)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: > 1 (heavier than air)
Relative density	: 0.87 (water=1)
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosion limit: 1 vol % Upper explosion limit: 12 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content : 78 % (5.62 lbs/gal or 674 g/l)

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor. Can form explosive mixtures with air. Heating may cause a fire or explosion.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Will not occur. Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Protect from sunlight. Overheating. Extremely high or low temperatures. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent. Strong acids. Strong bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg
LD50 dermal rabbit	15688 mg/kg
LC50 Inhalation - Rat	44 g/m ³
ATE US (oral)	5800 mg/kg body weight
ATE US (dermal)	15688 mg/kg body weight
ATE US (vapors)	44 mg/l/4h
ATE US (dust, mist)	44 mg/l/4h
Component A (trade secret)	
LD50 oral rat	> 40000 mg/kg
Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg
LD50 dermal rabbit	8390 mg/kg
LC50 Inhalation - Rat	25.7 mg/l/4h
ATE US (oral)	2600 mg/kg body weight
ATE US (dermal)	12000 mg/kg body weight
ATE US (vapors)	25.7 mg/l/4h
ATE US (dust, mist)	25.7 mg/l/4h
Heptane (142-82-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat	103 g/m ³ (4 h)
Ethyl acetate (141-78-6)	
LD50 oral rat	5620 mg/kg
LD50 dermal rabbit	> 20 ml/kg
ATE US (oral)	5620 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: Not classified
Toluene (108-88-3)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: May cause drowsiness or dizziness.
Heptane (142-82-5)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

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Symptoms/effects after inhalation	: Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. nausea, vomiting.
Symptoms/effects after skin contact	: Causes skin irritation. Redness. Itching. Swelling. May cause an allergic skin reaction. Skin rash/inflammation. Absorbed through the skin. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Causes serious eye irritation. Redness. Lacrimation. Itching. Blurred vision.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea. Abdominal pain.
Chronic symptoms	: Suspected of damaging fertility. Suspected of damaging the unborn child. Suspected of causing genetic defects. May cause damage to organs through prolonged or repeated exposure. May cause kidney and liver disease, and disorders of the central nervous system.
Other information	: No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Acetone (67-64-1)	
LC50 - Fish [1]	4144.846 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	1679.66 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
LC50 - Fish [2]	6210 – 8120 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	12600 – 12700 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Toluene (108-88-3)	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC chronic crustacea	0.74 mg/l (Ceriodaphnia dubia)

Heptane (142-82-5)	
LC50 - Fish [1]	375 mg/l (Exposure time: 96 h - Species: Cichlid fish)

Ethyl acetate (141-78-6)	
LC50 - Fish [1]	220 – 250 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	560 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
LC50 - Fish [2]	484 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
NOEC (chronic)	Daphnia magna, 21d

12.2. Persistence and degradability

Duall-88 Leather Adhesive	
Persistence and degradability	Biodegradability in water: no data available.

Acetone (67-64-1)	
Persistence and degradability	Readily biodegradable.

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12.3. Bioaccumulative potential

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Bioaccumulative potential	No data available concerning bioaccumulation.
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Acetone (67-64-1)

BCF - Fish [1]	0.69
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Partition coefficient n-octanol/water (Log Pow)	-0.24
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Toluene (108-88-3)

Partition coefficient n-octanol/water (Log Pow)	2.65
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Heptane (142-82-5)

Partition coefficient n-octanol/water (Log Pow)	4.66
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Ethyl acetate (141-78-6)

BCF - Fish [1]	30
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Partition coefficient n-octanol/water (Log Pow)	0.6
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12.4. Mobility in soil

Duall-88 Leather Adhesive

Ecology - soil	Adsorbs into the soil.
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12.5. Other adverse effects

Other adverse effects : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not pierce or burn, even after use.
Additional information	: Flammable vapors may accumulate in the container.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No	: UN1133
UN-No. (TDG)	: UN1133
UN-No. (IMDG)	: 1133
UN-No. (IATA)	: 1133

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Adhesives
Proper Shipping Name (TDG)	: ADHESIVES
Proper Shipping Name (IMDG)	: ADHESIVES
Proper Shipping Name (IATA)	: Adhesives

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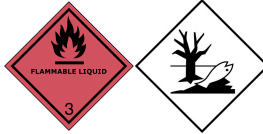
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14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3
Hazard labels (DOT) : 3



TDG

Transport hazard class(es) (TDG) : 3
Hazard labels (TDG) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Hazard labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3



14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1133

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DOT Special Provisions (49 CFR 172.102)	:	149 - When transported as a limited quantity or a consumer commodity, the maximum net capacity specified in 173.150(b)(2) of this subchapter for inner packaging may be increased to 5 L (1.3 gallons). B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	173
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L
DOT Vessel Stowage Location	:	B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

TDG

UN-No. (TDG)	:	UN1133
Explosive Limit and Limited Quantity Index	:	5 L
Excepted quantities (TDG)	:	E2
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	5 L
Emergency Response Guide (ERG) Number	:	128

IMDG

Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
Packing provisions (IMDG)	:	PP1
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1, TP8
EmS-No. (Fire)	:	F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	:	S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	:	B
Properties and observations (IMDG)	:	Adhesives are solutions of gums, resins, etc., usually volatile due to the solvents. Miscibility with water depends upon their composition.

IATA

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provision (IATA)	:	A3
ERG code (IATA)	:	3L

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Component A	CAS-No. trade secret	≥ 10 – < 15%
Component C	CAS-No. trade secret	≥ 1 – < 2.5%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Toluene	CAS-No. 108-88-3	≥ 25 – < 40%
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Acetone (67-64-1)

CERCLA RQ	5000 lb
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Toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	1000 lb
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Ethyl acetate (141-78-6)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Acetone (67-64-1)

Listed on the Canadian DSL (Domestic Substances List)

Toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

Heptane (142-82-5)

Listed on the Canadian DSL (Domestic Substances List)

Ethyl acetate (141-78-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

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National regulations

Acetone (67-64-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Toluene (108-88-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Heptane (142-82-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Ethyl acetate (141-78-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



WARNING:

This product can expose you to Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Data sources : Supplier's safety documents.
Training advice : Training staff on good practice.
Other information : SDS prepared by. H2 Compliance.

Full text of H-phrases

H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

