



MATERIAL SAFETY DATA SHEET

DEAHEUNG CHEMICAL CO., LTD. www.dhcbond.com



Product Name	D-5251
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1. Product and Company Identification

A. Product Name	D-5251
B. Recommended use of the chemical	
- Recommended use of the chemical	Bond the Metal, wood, rubber, HPM, plastics etc.
- Restrictions on use of the product	Do not use for purposes other than adhesive.
C. Manufacturer/Supplier/Distributor Information	
- Name	DAEHEUNG CHEMICAL CO., LTD.
- Address	68, Sandan-ro 64beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea
- Emergency phone number	82-31-668-1424

2. Hazards identification

A. Hazard-Risk Classification	Flammable Liquid : Category 2 Skin Corrosion/Irritation : Category 2 Serous Eyes Damage/Eye Irritation : Category 2 Reproductive Toxicity : Category 2 Specsific Target Organ Toxicity (Single Exposure) : Category 3(Narcotic effects) Specsific Target Organ Toxicity (Single Exposure) : Category 2 Specsific Target Organ Toxicity (Single Exposure) : Category 3(Respiratory tract irritation) Specsific Target Organ Toxicity (Repeated Exposure) : Category 2 Aspiration Harzard : Category 2 Hazardous to the aquatic environment, acute toxicity : Category 1
B. Label elements including precautionary statements	
- Symbol	
- Signal Word	Danger
- Hazard-Risk Statement	H225 Highly flammable liquid and vapour Causes severe skin burns and eye damage H305 May be harmful if swallowed and enters airways H315 Causes skin irritation H319 Causes serious eye irritation H335 May cause respiratory irritation H336 May cause drowsiness or dizziness H361 Suspected of damaging fertility or the unborn childH360 May damage fertility or the unborn child H371 May cause damage to organs H373 May cause damage to organs through prolonged or repeated exposure H400 Very toxic to aquatic life
- Precautionary Statement	
Prevention	P201 Obtain special instructions before use

Prevention	<p>P202 Do not handle until all safety precautions have been read and understood</p> <p>P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking</p> <p>P233 Keep container tightly closed</p> <p>P240 Ground/bond container and receiving equipment</p> <p>P241 Use explosion–proof electrical/ventilating/light/…/equipment</p> <p>P242 Use only non–sparking tool</p> <p>P243 Take precautionary measures against static discharge</p> <p>P260 Do not breathe dust/fume/gas/mist/vapours/spray</p> <p>P261 Avoid breathing dust/fume/gas/mist/vapours/spray</p> <p>P264 Wash … thoroughly after handling</p> <p>P270 Do not eat, drink or smoke when using this product</p> <p>P271 Use only outdoors or in a well–ventilated area</p> <p>P273 Avoid release to the environment</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection</p>
Response	<p>P281 Use personal protective equipment as required</p> <p>P301+P310 IF SWALLOWED : Immediately call a POISON CENTER or doctor/physician</p> <p>P302+P352 IF ON SKIN : Wash with soap and water</p> <p>P303+P361+P353 IF ON SKIN (or hair) : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower</p> <p>P304+P340 IF INHALED : Remove victim to fresh air and keep at rest in a position comfortable for breathing</p> <p>P305+P351+P338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing</p> <p>P308+P313 IF exposed or concerned : Get medical advice/attention</p> <p>P309+311 IF exposed or you feel unwell : Call a POISON CENTER or doctor/physician</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell</p> <p>P314 Get Medical advice/attention if you feel unwell</p> <p>P321 Specific treatment (see 4. First aid measures on this label)</p> <p>P331 Do NOT induce vomiting</p> <p>P332+P313 If skin irritation occurs : Get medical advice/attention</p> <p>P337+P313 If eye irritation persists get medical advice/attention</p> <p>P362 Take off contaminated clothing and wash before reuse</p> <p>P370+378 In case of fire: Use dry chemical, Carbon dioxide, Foam, Water spray for extinction</p> <p>P391 Collect spillage</p>
Storage	<p>P403+P233 Store in a well ventilated place. Keep container tightly closed</p> <p>P403+P235 Store in a well ventilated place. Keep cool.</p> <p>P405 Store locked up</p>
Disposal	<p>P501 Dispose of contents/container to …</p>
C. Other Hazard·Risk which are not included in the classification criteria (e.g. dust explosion hazard)	
Health	1
Fire	3
Reactivity	1

3. Composition/Information on ingredients

Chemical Name	Other name	CAS number	Content(%)
CYCLO-HEXANE	HEXAHYDROBENZENE	110-82-7	15~24
ACETONE	2-PROPANONE	67-64-1	25~35
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	PHENOL, P-tert-BUTYL-,	25085-50-1	5~10
NEOPRENE	SYNTHETIC RUBBER	9010-98-4	10~20

4. First aid measures

A. Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists.
B. Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF exposed: Get medical advice/attention. Remove/Take off immediately all contaminated clothing. Evacuate area In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Wash with soap and water.
C. Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
D. Ingestion	Immediately call a POISON CENTER or doctor/physician.
E. Indication of immediate medical attention and notes for physician	Call a POISON CENTER or doctor/physician. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Fire-Fighting measures

A. Suitable (and unsuitable) extinguishing media	Dry chemical, CO ₂ , sand, earth, water spray or regular foam.
B. Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products)	Extremely flammable liquid and vapour Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors may travel to source of ignition and flash back. Fire may produce irritating, corrosive and/or toxic gases. Substance may be transported in a molten form at a temperature that may be above its flash point. Containers may explode when heated. May be ignited by friction, heat, sparks or flames. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
C. Special protective equipment and precautions for fire-fighters	Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Fight fire with normal precautions from a reasonable distance Many liquids are lighter than water. Vapors from liquefied gas are initially heavier than air and spread along ground. Dike far ahead of liquid spill for later disposal. Move containers from fire area if you can do it without risk.

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

Cool containers with flooding quantities of water until well after fire is out.

Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

ALWAYS stay away from tanks engulfed in fire.

For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures	<p>Avoid breathing dust/fume/gas/mist/vapours/spray</p> <p>ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).</p> <p>Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.</p> <p>Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.</p> <p>Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.</p> <p>All equipment used when handling the product must be grounded.</p> <p>Stop leak if you can do it without risk.</p> <p>Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.</p> <p>Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.</p>
B. Environmental precautions and protective procedures	<p>Prevent entry into waterways, sewers, basements or confined areas.</p>
C. Methods and materials for containment and cleaning up	<p>Dike fire-control water for later disposal; do not scatter the material.</p> <p>Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.</p> <p>Use clean non-sparking tools to collect absorbed material.</p> <p>Dike far ahead of liquid spill for later disposal.</p>

7. Handling and storage

A. Precautions for safe handling	<p>Do not handle until all safety precautions have been read and understood.</p> <p>Use explosion-proof electrical/ventilating/light/.../equipment.</p> <p>Use only non-sparking tools.</p> <p>Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>Wash thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Use only outdoors or in a well-ventilated area.</p> <p>Keep cool. Protect from sunlight.</p> <p>All equipment used when handling the product must be grounded.</p> <p>Store in a well ventilated place. Keep container tightly closed</p> <p>Heating may cause a fire or explosion</p> <p>Keep out of low areas.</p> <p>Ventilate closed spaces before entering.</p>
B. Conditions for safe storage (including any incompatibilities)	<p>Keep away from heat/sparks/open flames/hot surfaces – No smoking</p> <p>Store in a well ventilated place. Keep container tightly closed</p> <p>Store in a well ventilated place. Keep cool</p> <p>Do not eat, drink or smoke when using this product</p>

8. Exposure controls & personal protection

A. Control parameters (e.g. occupational exposure limit values, biological limit values)	
– Occupational exposure limit values	
CYCLO-HEXANE	TWA – 200ppm 700mg/m3
ACETONE	TWA – 500ppm 1188mg/m3 STEL – 750ppm 1782mg/m3
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	No data available
– ACGIH limit values	
CYCLO-HEXANE	TWA 100 ppm
ACETONE	TWA 500 ppm
	STEL 750 ppm
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	No data available
– Biological limit values	
CYCLO-HEXANE	No data available
ACETONE	No data available
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	No data available
B. Appropriate engineering controls	
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation.	
C. Personal protective equipment	
– Respiratory protection	
The filter class must be suitable for the maximum contaminant concentration(gas/vapour/aerosol/particulates) that may arise when handling the product.	
– Eye protection	
Wear eye protection/face protection.	
– Hands protection	
Wear proper chemical resistant gloves.	
– Body protection	
Wear proper Protective clothing.	

9. Physical and chemical properties

A. Appearance	
Physical state	Viscous liquid
Color	Yellowish
B. Odour	Solvent
C. Odour threshold	No data available
D. pH	Not Applicable
E. Melting point/freezing point	Not Applicable
F. Initial boiling point and boiling range	56~81 °C
G. Flashing point	–19.65 °C(Rapid equilibrium method)
H. Evaporation rate	No data available
I. Flammability(solid, gas)	No data available
J. Upper/lower flammability or explosive limits	10(8.4~13) % / 1.58(1.3~2.5) %
K. Vapor pressure	No data available
L. Solubility	Not soluble in water
M. Vapor density	Above 2
N. Relative density	0.83±0.05
O Partition coefficient:n-octanol/water	No data available
P. Auto-ignition temperature	321.35 °C (245~465 °C)

Q. Decomposition temperature	No data available
R. Viscosity	1,200~1,300 cps (20 °C)
S. Formula mass	No data available

10. Stability and reactivity

A.Chemical stability and possibility of hazardous reactions	<p>Extremely flammable liquid and vapour</p> <p>Fire will produce irritating, corrosive and/or toxic gases.</p> <p>Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.</p> <p>Containers may explode when heated.</p> <p>HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.</p> <p>Runoff to sewer, indoors, outdoors may create fire or explosion hazard.</p> <p>Vapors may form explosive mixtures with air.</p> <p>Vapors may travel to source of ignition and flash back.</p> <p>Vapors may cause dizziness or asphyxiation without warning.</p> <p>May be harmful by inhalation, ingestion and skin absorption.</p>
B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
C. Incompatible materials	<p>Irritant, toxic gas</p> <p>Flammable materials</p>
D. Hazardous decomposition products	Fire may produce irritating, corrosive and/or toxic gases.

11. Toxicological information

A. Information on the likely routes of exposure	No data available
B. Health hazards information	
– Acute toxic	
Oral	
CYCLO-HEXANE	LD50 12705 mg/kg
ACETONE	LD50 5280 mg/kg Rat (EHC(1990), SIDS(1997))
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	LD50 40000 mg/kg Rat
Dermal	
CYCLO-HEXANE	LD50 > 2000 mg/kg Rabbit
ACETONE	LD50 12870 mg/kg Rabbit (EHC(1990), PATTY(1994), SIDS(1997))
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	No data available
Inhalation	
CYCLO-HEXANE	LC50 70 mg/ℓ
ACETONE	LC50 32000 ppm Rat
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	No data available
– Skin corrosive/irritant	
CYCLO-HEXANE	No skin irritation Rabbit
ACETONE	Result: Mild skin irritation – 24 h Rabbit
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	No data available
NEOPRENE	Irritation to skin

– Serious eye damage/eye irritation	
CYCLO-HEXANE	Mild eye irritation Rabbit
ACETONE	Result: Eye irritation – 24 h Rabbit
PARA-TERTIARY-BUTYLPHENOL- FORMALDEHYDE RESIN	Can cause weak irritation
NEOPRENE	Can cause weak irritation
– Respiratory sensitization	No data available
– Skin sensitization	No data available
– Carcinogenicity	
IARC	Group 3 ; Not classifiable as to carcinogenicity to humans
ACGIH	A4
– Germ Cell Mutagenicity	No data available
– Reproductive toxicity	No data available
– Specific target organ toxicity (single exposure):	
CYCLO-HEXANE	May cause drowsiness or dizziness.
ACETONE	May cause drowsiness or dizziness.
PARA-TERTIARY-BUTYLPHENOL- FORMALDEHYDE RESIN	May cause drowsiness or dizziness.
NEOPRENE	May cause drowsiness or dizziness.
– Specific target organ toxicity (repeated exposure)	
	No data available
– Aspiration hazard	
CYCLO-HEXANE	May be fatal if swallowed and enters airways.

12. Ecological information

A. Aquatic and terrestrial ecotoxicity	
– Fish	
ACETONE	LC50 > 100 mg/ℓ 96 hr
– Shellfish	
CYCLO-HEXANE	EC50 0.9 mg/ℓ 48 hr
B. Persistence and degradability	No data available
C. Bioaccumulative potential	
– Bioaccumulative	
CYCLO-HEXANE	BCF 129
– Potential	
CYCLO-HEXANE	77 (%) 28 day
D. Mobility in soil	No data available
E. Other adverse effects	No data available

13. Disposal considerations

A. Disposal method	Destroy the product by incineration
B. Disposal precaution	Destroy the product by incineration

14. Transport information

A. UN number	1133
B. UN proper shipping name	ADHESIVES containing flammable liquid
C. Transport hazard class:	3
D. Packing group (if applicable)	II
E. Marin pollution (yes/no)	Yes
F. Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises:	

15. Regulatory information

A. Industrial Safety and Health Act	
Management harmful agents	CYCLO-HEXANE, ACETONE
Working environment measurement target material (measurement period: 6 months)	CYCLO-HEXANE, ACETONE
Special medical examination the substance (diagnostic period: 12 months)	CYCLO-HEXANE, ACETONE
Exposure limits set material	CYCLO-HEXANE, ACETONE
B. Toxic Chemical Control Act	Not Applicable
C. Dangerous Material Safety Control Act	The 4th type, the 1st petroleum type 200ℓ
D. Wastes Management Act	Designated Wastes
E. Other requirements in domestic and other countries	
– Domestic	
Persistent Organic Pollutant Control Act	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
– Other countries	
USA(OSHA)	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA(CERCLA)	
CYCLO-HEXANE	453.599 kg 1000 lb
ACETONE	2267.995 kg 5000 lb
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA(EPCRA 302)	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA(EPCRA 304)	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA(EPCRA 313)	
CYCLO-HEXANE	Applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA (Rotterdam Convention material)	

CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA (Stockholm Convention material)	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
USA (Substance Montreal Protocol)	
CYCLO-HEXANE	Not applicable
ACETONE	Not applicable
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
EU (Classification)	
CYCLO-HEXANE	F; R11Xn; R65Xi; R38R67N; R50-53
ACETONE	F; R11Xi; R36R66R67
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
EU (Risk Phrases)	
CYCLO-HEXANE	R11, R38, R65, R67, R50/53
ACETONE	R11, R36, R66, R67
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable
EU (Safety Phrases)	
CYCLO-HEXANE	S2, S9, S16, S25, S33, S51, S60, S61, S62
ACETONE	S2, S9, S16, S26, S46
PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE RESIN	Not applicable
NEOPRENE	Not applicable

16. Other information

- A. Information source and references
- CYCLO-HEXANE

(3) IUCLID(4) NLM(5) EU-RAR (2004)

ACETONE

PARA-TERTIARY-BUTYLPHENOL-FORMALDEHYDE ...

NEOPRENE

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)

- B. Issuing date

November 6, 2012
- C. Revision number and date

5 / Feb 16, 2022
- D. others