

CONTACT CLEANER

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*Prepared according to UN GHS (the 9th revised edition)

1 Identification

Product identifier

Product Name	CONTACT CLEANER
Cat No.	GDQY20DS397-3
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable

Recommended use of the product and restrictions on use

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

Emergency phone number

Emergency phone number	1-800-424-9300 (CHEMTREC)
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2 Hazard(s) identification

Hazard classification according to GHS

Aerosols	Category 1
Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 2
Specific Target Organ Toxicity (Single Exposure)	Category 3(drowsiness or dizziness)
Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard	Category 2

GHS Label elements

Hazard pictograms	   
Signal word	Danger

Hazard statements

H222+H229	Extremely flammable aerosol; Pressurized container: may burst if heated
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects

Precautionary statements

◆ Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing gas.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P271	Use only outdoors or with adequate ventilation.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

◆ Response

P319	Get medical help if you feel unwell.
P321	Specific treatment (see related instructions on the label).
P331	Do NOT induce vomiting.
P391	Collect spillage.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P317	If skin irritation occurs: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.

◆ Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.
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Hazard description

◆ Physical and chemical hazards

	Extremely flammable, risk of explosion.
◆ Health hazards	
Inhaled	Inhalation of the product may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. May be fatal if swallowed and enters airways during the course of normal handling.
Ingestion	Due to physical form of this product, considered an unlikely route of entry in commercial/industrial environments.
Skin Contact	The product can cause skin irritation following direct contact with the skin.
Eye	This product may cause temporary discomfort following direct contact with the eye.
◆ Environmental hazards	
	This product is toxic to aquatic life with long lasting effects. Please refer to 12th chapter of SDS.

3 Composition/information on ingredients

Substance/mixture

	Mixture
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Component	CAS No.	EC No.	Concentration (wt, %)
2-methylpentane	107-83-5	203-523-4	55~75
n-Butane	106-97-8	203-448-7	15~35
Propane	74-98-6	200-827-9	5~15
Carbon dioxide	124-38-9	204-696-9	1~5

4 First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Ingestion	Rinse mouth.
Inhalation	Fresh air , rest.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Small Fire : Dry chemical or CO2; Large Fire : Water spray or fog.
Unsuitable extinguishing media	Don't use water spray directly in the leak or safety equipment, otherwise may cause icing.

Specific hazards arising from the substance or mixture

1	Flammable: will be easily ignited by heat, sparks or flames.
2	Will form explosive mixtures with air.
3	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
4	Vapours may travel to source of ignition and flash back.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment, do not breathe gas.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

1	All equipment used in the work should be grounded.
2	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
3	Spray water inhibits vapor or changes the direction of vapor cloud flow.
4	Do not allow spills to come into contact with combustible materials such as wood, paper, oil, etc.
5	Do not touch or cross spills.
6	Isolate the leak area until the gas is exhausted.
7	Cut off the source of the leak as much as possible.
8	Keep leaks in a ventilated place.
9	Do not use water directly to impact spills or sources of leakage.

10	Wear a cold suit when the liquefied gas leaks.
11	It is recommended that emergency personnel wear a positive pressure self-contained breathing apparatus and wear general work clothes.
12	A large number of leaks: The warning zone is delineated according to the area affected by the gas, and the unrelated personnel are evacuated from the crosswind and the upwind to the safe zone.
13	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
14	Prevent gas from diffusing through sewers, ventilation systems, and confined spaces.

7 Handling and storage

Precautions for safe handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.
6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

8 Exposure controls/personal protection

Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
2-methylpentane	USA - NIOSH	100	350	510	1800
	South Korea	500	1800	1000	3600
	Ireland	500	1800	1000	3600
	Germany (AGS)	500	1800	1000	3600
	Denmark	200	700	400	1400
	Australia	500	1760	1000	3500
	USA-ACGIH	500		1000	
n-Butane	USA - NIOSH	800	1900	-	-
	South Korea	800	1900	-	-
	New Zealand	800	1900	-	-
	Germany (AGS)	1000	2400	4000	9600
	Denmark	500	1200	1000	2400

	Australia	800	1900	-	-
	USA-ACGIH	-	-	1000	-
Propane	USA - OSHA	1000	1800	-	-
	Switzerland	1000	1800	4000	7200
	New Zealand	-	-	-	-
	Ireland	1000	-	-	-
	Germany (AGS)	1000	1800	4000	7200
	Denmark	1000	1800	2000	3600
	Canada - Québec	1000	1800	-	-
	Canada - Ontario	1000	-	-	-
	Belgium	1000	-	-	-
	Austria	1000	1800	2000	3600
Carbon dioxide	USA - OSHA	5000	9000	-	-
	South Korea	5000	9000	30000	54000
	Ireland	5000	9000	15000	27000
	Germany (AGS)	5000	9100	10000	18200
	Denmark	5000	9000	10000	18000
	Australia	5000	9000	30000	54000
	USA-ACGIH	5000	-	30000	-

◆ Biological limit values

Biological limit values	No relevant regulations
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◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 series standard Determination of toxic substances in workplace air.

| Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

| Personal protection equipment

General requirement	    
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Appropriate respiratory protective equipment must be worn. When the oxygen concentration is unknown, a self-contained atmosphere-supplying respiratory protective apparatus must be worn.

Skin and body protection

Must wear anti static chemical protective clothing and anti static shoes.

9 Physical and chemical properties and safety characteristics**| Physical and chemical properties**

Physical state	Liquid
Colour	Colorless transparent
Odor	Solvent odor
Odor threshold	No information available
pH	Not applicable
Melting point/freezing point(°C)	No information available
Initial boiling point and boiling range(°C)	No information available
Flash point(Closed cup,°C)	Not applicable
Evaporation rate	Not applicable
Flammability	Extremely flammable
Upper/lower explosive limits[% (v/v)]	Upper limit : No information available ; Lower limit : No information available
Vapor pressure	Not applicable
Relative vapour density(Air = 1)	0.66±0.1
Relative density(Water=1)	Not applicable
Solubility	Partly miscible with water
n-octanol/water partition coefficient	Not applicable
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	No information available
Kinematic viscosity	Not applicable
Particle characteristics	Not applicable

10 Stability and reactivity**| Stability and reactivity**

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	In contact with an open flame may cause a fire or explosion. In contact with oxidants causes severe reactions, and may cause a fire or explosion.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Oxidantss and halogen. Oxidants, alkali metals, alkaline earth metals and aluminum.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information**| Acute toxicity**

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
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n-Butane	No information available	No information available	658mg/L(Rat)
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Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
2-methylpentane	Not Listed	Not Listed
n-Butane	Not Listed	Not Listed
Propane	Not Listed	Not Listed
Carbon dioxide	Not Listed	Not Listed

Others

CONTACT CLEANER	
Skin corrosion/irritation	Causes skin irritation(Category 2)
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	May cause drowsiness or dizziness(Category 3(drowsiness or dizziness))
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	May be fatal if swallowed and enters airways(Category 1)
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Reproductive toxicity(additional)	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Acute aquatic toxicity	No information available
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Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
2-methylpentane	Low	Low
n-Butane	Low	Low

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
2-methylpentane	Low	Log Kow=3.2145
n-Butane	Low	Log Kow=2.89

Mobility in soil

Component	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
2-methylpentane	Low	124.9
n-Butane	Low	43.79

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
2-methylpentane	Insufficient information, temporarily unable to evaluate
n-Butane	Insufficient information, temporarily unable to evaluate
Propane	Not PBT/vPvB
Carbon dioxide	Insufficient information, temporarily unable to evaluate

13 Disposal considerations

Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	
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IMDG-CODE

UN number	1950
UN proper shipping name	AEROSOLS
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	Not applicable
Marine pollutant (Yes or no)	Yes

IATA-DGR

UN number	1950
UN proper shipping name	AEROSOLS
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	Not applicable

UN-ADR

UN number	1950
UN proper shipping name	AEROSOLS
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	Not applicable

15 Regulatory information

International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIIC	ENCS
2-methylpentane	✓	✓	✓	✓	✓	✓	✓	✓	✓
n-Butane	✓	✓	✓	✓	✓	✓	✓	✓	✓
Propane	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carbon dioxide	✓	✓	✓	✓	✓	✓	✓	✓	✓

[EC inventory]	European Inventory of Existing Commercial Chemical Substances
[TSCA]	United States Toxic Substances Control Act Inventory
[DSL]	Canadian Domestic Substances List
[IECSC]	China Inventory of Existing Chemical Substances
[NZIoC]	New Zealand Inventory of Chemicals
[PICCS]	Philippines Inventory of Chemicals and Chemical Substances
[KECI]	Korea Existing Chemicals Inventory
[AIIC]	Australian. Inventory of Industrial Chemical (AIIC)
[ENCS]	Japan Inventory of Existing & New Chemical Substances

Note:

- “✓” Indicates that the substance included in the regulations.
 “x” No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2024/08/17
Revision Date	2024/08/17
Reason for revision	-

Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/substancesearch/index.action>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development

PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 9th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.