

FOAMING GLASS CLEANER

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Report No. : QYBS20DS320-1574ME
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*Prepared according to American OSHA HCS-2024 (29 CFR 1910.1200)

1 Identification

Product identifier

Product Name	FOAMING GLASS CLEANER
Cat No.	QYBS20DS320-1
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 29 CFR 1910.1200

Aerosols	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Irritation	Category 1
Acute Toxicity –Inhalation	Category 4

Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H222	Extremely flammable aerosol
H315	Causes skin irritation
H318	Causes serious eye damage
H332	Harmful if inhaled

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 dust/fume/gas/mist/vapours/spray.
P264	Wash face and hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P264+P265	Wash hands and other parts of the body (if related) thoroughly after handling. Do not touch eyes.

◆ Response

P317	Get medical help.
P321	Specific treatment (see on this label).
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.
P305+P354+P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

◆ Storage

P405	Store locked up.
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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Other hazards

	Not applicable.
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Hazard description

◆ Physical and chemical hazards

	Extremely flammable, risk of explosion.
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◆ Health hazards

Inhaled	Inhalation of the product may produce adverse health effects or irritation of the respiratory tract following discomfort.
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	The product can produce severe chemical burns to the eye following direct contact.
◆ Environmental hazards	
	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, %)
Water	7732-18-5	231-791-2	75~95
2-butoxyethanol	111-76-2	203-905-0	2~10
Ethanol	64-17-5	200-578-6	2~10
n-Butane	106-97-8	203-448-7	2~10
Propane	74-98-6	200-827-9	0.5~3
Morpholine	110-91-8	203-815-1	0.5~3
D-Glucopyranose, oligomers, C12-14-alkyl glycosides	157707-88-5	500-395-4	0.1~0.5

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	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of soap and water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
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	Use extinguishing agent suitable for type of surrounding fire.
Unsuitable extinguishing media	No special notes.

| Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	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	Use personal protective equipment,do not breathe gas.
2	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
3	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	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Do not use water directly to impact spills or sources of leakage.
4	Wear a cold suit when the liquefied gas leaks.
5	It is recommended that emergency personnel wear a positive pressure self-contained breathing apparatus and wear general work clothes.
6	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.
7	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
8	Prevent gas from diffusing through sewers, ventilation systems, and confined spaces.

7 Handling and storage**| Precautions for safe handling**

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.
4	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.

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Exposure controls/personal protection

Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
2-butoxyethanol	USA - OSHA	50	240	-	-
	South Korea	20	97	-	-
	Ireland	20	98	50	246
	Germany (AGS)	10	49	40	196
	Denmark	20	98	40	196
	Australia	20	96.9	50	242
	USA-ACGIH	20	-	-	-
Ethanol	USA - OSHA	1000	1900	-	-
	South Korea	1000	1900	-	-
	Ireland	-	-	1000	-
	Germany (AGS)	500	960	1000	1920
	Denmark	1000	1900	2000	3800
	Australia	1000	1880	-	-
	USA-ACGIH	-	-	1000	-
Morpholine	USA - OSHA	20	70	-	-
	South Korea	20	70	30	105
	Ireland	10	36	20	72
	Germany (AGS)	10	36	20	72
	Denmark	20	70	40	140
	Australia	20	71	-	-
	USA-ACGIH	20			
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	-	-	-

n-Butane	Belgium	1000	-	-	-
	Austria	1000	1800	2000	3600
	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	-

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

Appearance (physical state, color, etc.)	Yellowish transparent liquid
Odor	Aromatic smell
Odor threshold	No information available
pH	9.76±1.5
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

Vapor density(Air = 1)	Not applicable
Relative density(Water=1)	0.977±0.1
Solubility	No information available
n-octanol/water partition coefficient	Not applicable
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	No information available
Kinematic viscosity	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 oxidants causes severe reactions, and may cause a fire or explosion. In contact with an open flame may cause a fire or explosion.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Oxidants, alkali metals, alkaline earth metals and aluminum. Oxidantss and halogen.
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)
n-Butane	No information available	No information available	658mg/L(Rat)
Morpholine	1450mg/kg(Rat)	497mg/kg(Rabbit)	No information available
Ethanol	7060mg/kg(Rat)	No information available	39mg/L(Mouse)
2-butoxyethanol	470mg/kg(Rat)	220mg/kg(Rabbit)	2.175mg/L(Rat)

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP	OSHA Carcinogen List
Water	Not Listed	Not Listed	Not Listed
2-butoxyethanol	Category 3	Not Listed	Not Listed
Ethanol	Category 1	Not Listed	Not Listed
Morpholine	Category 3	Not Listed	Not Listed
Propane	Not Listed	Not Listed	Not Listed
n-Butane	Not Listed	Not Listed	Not Listed
D-Glucopyranose, oligomers, C12-14-alkyl glycosides	Not Listed	Not Listed	Not Listed

Others

FOAMING GLASS CLEANER	
Skin corrosion/irritation	Causes skin irritation (Category 2)
Serious eye damage/irritation	Causes serious eye damage (Category 1)
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	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
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

Component	Fish	Crustaceans	Algae
Morpholine	LC ₅₀ :180mg/L (96h)(Fish)	EC ₅₀ : 45mg/L (48h)(Crustaceans)	ErC ₅₀ : 28mg/L (96h)(Algae)
Ethanol	LC ₅₀ : 11200mg/L (96h)(Fish)	EC ₅₀ : 9950mg/L (48h)(Crustaceans)	No information available
2-butoxyethanol	LC ₅₀ : 1370mg/L (96h)(Fish)	EC ₅₀ : >1000mg/L (48h)(Crustaceans)	ErC ₅₀ : >1000mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
Morpholine	No information available	NOEC : 5.0mg/L(Crustaceans)	NOEC : 31mg/L(Algae)
2-butoxyethanol	No information available	NOEC :>100mg/L(Crustaceans)	NOEC : 130mg/L(Algae)

Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
n-Butane	Low	Low
Ethanol	Low(Half-life = 2.17 days)	Low(Half-life = 5.08 days)

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
n-Butane	Low	Log Kow=2.89
Ethanol	Low	Log Kow=-0.31

Mobility in soil

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

Ethanol	High	1
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Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Water	Insufficient information, temporarily unable to evaluate
2-butoxyethanol	Not PBT/vPvB
Ethanol	Not PBT/vPvB
Morpholine	Not PBT/vPvB
Propane	Not PBT/vPvB
n-Butane	Insufficient information, temporarily unable to evaluate
D-Glucopyranose, oligomers, C12-14-alkyl glycosides	Not applicable

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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US DOT (49CFR)

UN number	1950
UN proper shipping name	AEROSOLS
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	Not applicable
Special provisions	
DOT Reportable Quantity (RQ)/lbs	No information available
Environmental hazards	—

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)	No

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
Water	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-butoxyethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethanol	✓	✓	✓	✓	✓	✓	✓	✓	✓
Morpholine	✓	✓	✓	✓	✓	✓	✓	✓	✓
Propane	✓	✓	✓	✓	✓	✓	✓	✓	✓
n-Butane	✓	✓	✓	✓	✓	✓	✓	✓	✓
D-Glucopyranose, oligomers, C12-14-alkyl glycosides	✓	✗	✗	✓	✓	✗	✗	✗	✗

- [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

US chemical inventory

Component	A	B	C	D	E	F	G	H
Water	×	×	×	×	×	×	×	×
2-butoxyethanol	×	×	×	✓	✓	✓	✓	×
Ethanol	×	×	×	✓	✓	✓	✓	×
Morpholine	×	×	×	✓	✓	✓	✓	×
Propane	×	×	×	✓	✓	✓	✓	×
n-Butane	×	×	×	✓	✓	✓	✓	×
D-Glucopyranose, oligomers, C12-14-alkyl glycosides	×	×	×	×	×	×	×	×

- [A] US Clean Air Act (CAA)- Section 112, Hazardous Air Pollutants
- [B] US SARA 302- Extremely Hazardous Substance List
- [C] US CERCLA- Hazardous Substances List
- [D] US Massachusetts Right-to-Know Substance List
- [E] US New Jersey Right to Know Hazardous Substance List
- [F] US Pennsylvania Right to Know Hazardous Substance List
- [G] US New York City Right-to-Know Hazardous Substance List
- [H] US California Proposition 65 List

Note
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- “√” Indicates that the substance included in the regulations.
- “×” No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2024/06/19
Revision Date	2024/11/24
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.chemportal.org/chemportal/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-STE L	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	HCS	Hazard Communication Standard

Disclaimer

This Safety Data Sheet (SDS) was prepared according to OSHA HCS-2024. 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.