Safety Data Sheet

acc. to OSHA, Appendix D to § 1910.1200

Glass Plus

Version number: GHS 1.0 Date of compilation: 2015-05-16

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name **Glass Plus**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses glass/mirror cleaner

1.3 Details of the supplier of the safety data sheet

Auto Chem Systems
92-1358 Hunekai St
Kapolei, HI 96707
808-672-8958

Competent person responsible for the SDS Robert Blahnik

1.4 Emergency telephone number

Emergency information service **USA 1.800.535.5053, INTL 1.352.323.3500**
24 hour emergency telephone number.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Annex	- Hazard class and category	-		Hazard statement code(s)
B.6	flammable liquids	Cat. 3	(Flam. Liq. 3)	H226
A.2	skin corrosion/irritation	Cat. 2	(Skin Irrit. 2)	H315
A.3	serious eye damage/eye irritation	Cat. 2A	(Eye Irrit. 2A)	H319

Remarks

For full text of H-phrases: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word **warning**

Pictograms

GHS02, GHS07

Hazard statements

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

Precautionary statements - prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response

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: get medical advice/attention.
In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

Precautionary statements - storage

Store in a well-ventilated place. Keep cool.

Precautionary statements - disposal

Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Hazard class and category		Hazard state-ment
propan-2-ol	CAS No 67-63-0	10 - < 25	B.6 A.3 A.8D	Flam. Liq. 2 Eye Irrit. 2A STOT SE 3	H225 H319 H336
ethylene glycol monobutyl ether	CAS No 111-76-2	10 - < 25	B.6 A.1O A.1D A.1I A.2 A.3	Flam. Liq. 4 Acute Tox. 4 Acute Tox. 4 Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2A	H227 H302 H312 H332 H315 H319

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Following eye contact

Irrigate copiously with clean, fresh water, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Explosive when mixed with combustible material.

Hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Reference to other sections

Hazardous combustion products: see section 5. Personal precautions: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.

Warning

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

• Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

• Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

Incompatible substances or mixtures

Observe compatible storage of chemicals.

Control of the effects

Protect against external exposure, such as

frost

Consideration of other advice

Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
US	2-butoxyethanol	111-76-2	PEL	50	240			29 CFR OSHA
US	isopropyl alcohol	67-63-0	PEL	400	980			29 CFR OSHA

Notation

STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified.
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average.

Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	turquoise
Odor	characteristic

Other physical and chemical parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	82.5 °C
Flash point	33 °C at 101.3 kPa 92 °C at 1 atm (closed cup)
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Vapor pressure	31.69 hPa at 25 °C
Density	0.947 $^{g}/_{cm^3}$

Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	230 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s): risk of ignition

• if heated

risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Physical stresses which might result in a hazardous situation and have to be avoided

strong shocks

10.5 Incompatible materials

There is no additional information.

Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
ethylene glycol monobutyl ether	111-76-2	oral	1746
ethylene glycol monobutyl ether	111-76-2	dermal	1100
ethylene glycol monobutyl ether	111-76-2	inhalation: vapor	11

Skin corrosion/irritation

Causes skin irritation.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant.

Carcinogenicity

- National Toxicology Program (United States): none of the ingredients are listed
- IARC Monographs

Name of substance	Name acc. to inventory	CAS No	wt%	Classification	Remarks	Number
ethylene glycol monobutyl ether	2-Butoxyethanol	111-76-2	10.41	3		Volume 88
propan-2-ol	Isopropyl alcohol	67-63-0	19.82	3		Volume 15, Sup 7, 71

Legend

3 Not classifiable as to carcinogenicity in humans.

Specific target organ toxicity (STOT)

Shall not be classified as a specific target organ toxicant.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
propan-2-ol	67-63-0	LC50	10000 $^{mg}/_{l}$	fish	96 hours
ethylene glycol monobutyl ether	111-76-2	LC50	1474 $^{mg}/_{l}$	fish	96 hours
ethylene glycol monobutyl ether	111-76-2	EC50	1550 $^{mg}/_{l}$	aquatic invertebrates	48 hours
ethylene glycol monobutyl ether	111-76-2	ErC50	1840 $^{mg}/_{l}$	algae	72 hours

Aquatic toxicity (chronic)

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
propan-2-ol	67-63-0	LC50	>10000 $^{mg}/_{l}$	aquatic invertebrates	24 h
ethylene glycol monobutyl ether	111-76-2	EC50	297 $^{mg}/_{l}$	aquatic invertebrates	21 d

12.2 Process of degradability

Data are not available.

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d
ethylene glycol monobutyl ether	111-76-2	carbon dioxide generation	18.3 %	3 d

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
ethylene glycol monobutyl ether	111-76-2		0.81	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

13.3 Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	UN number	**1993**
14.2	UN proper shipping name	**FLAMMABLE LIQUID, N.O.S.**
14.3	Transport hazard class(es)	
	Class	3 (flammable liquids)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user

There is no additional information.

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

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

• Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number	1993
Proper shipping name	Flammable liquid, n.o.s.
Class	3
Packing group	III
Danger label(s)	3

Special provisions (SP)	B1, B52, IB3, T4, TP1, TP29
ERG No	128

• International Maritime Dangerous Goods Code (IMDG)

UN number	1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	III
Danger label(s)	3

Special provisions (SP)	223, 274, 955
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-E
Stowage category	E

• International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1993
Proper shipping name	Flammable liquid, n.o.s.
Class	3
Packing group	III
Danger label(s)	3

Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

SARA TITLE III (Superfund Amendment and Reauthorization Act)

List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304) none of the ingredients are listed

Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)

Name of substance	CAS No	Remarks	Effective date
propan-2-ol	67-63-0	Only persons who manufacture by the strong acid process are subject, no supplier notifiction.	1987-01-01

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System (American Coatings Association)

Category	Rating	Description
Chronic	/	None.
Health	2	Temporary or minor injury may occur.
Flammability	3	Materials that can be ignited under almost all ambient temperature conditions.
Physical hazard	0	Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.
Personal protective equipment	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States) - National Fire Protection Association (United States)

Category	Degree of hazard	Description
Flammability	3	Materials that can be ignited under almost all ambient temperature conditions.
Health	2	Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
Instability	0	Materials that are normally stable, even under fire conditions.
Special hazard		

Right to Know Hazardous Substance List

Name of substance	CAS No	Remarks	Classifications
ethylene glycol monobutyl ether	111-76-2		CA F2
propan-2-ol	67-63-0		F3

Legend

CA	Carcinogenic.
F2	Flammable - Second Degree.
F3	Flammable - Third Degree.

Proposition 65 List of chemicals none of the ingredients are listed

Relevant European Union (EU) safety, health and environmental provisions

Classification according to GHS (1272/2008/EC, CLP)

Hazard class	Category	Hazard class and category
flammable liquids	3	(Flam. Liq. 3)
skin corrosion/irritation	2	(Skin Irrit. 2)
serious eye damage/eye irritation	2	(Eye Irrit. 2)

SECTION 16: Other information

16.2 Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR OSHA	29 CFR §1910.1001 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR § 40 U.S. Department of Transportation
Acute Tox.	acute toxicity
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	BioConcentration Factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction

Abbr.	Descriptions of used abbreviations
COD	chemical oxygen demand
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
Flam. Liq.	flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
NFPA® 704	National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STOT SE	specific target organ toxicity - single exposure
vPvB	very Persistent and very Bioaccumulative

16.3 Key literature references and sources for data

- OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200
- 49 CFR § 172.101 Hazardous Materials Table (DOT)

16.4 Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards/Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

16.5

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	highly flammable liquid and vapor
H226	flammable liquid and vapor
H227	combustible liquid
H302	harmful if swallowed
H312	harmful in contact with skin
H315	causes skin irritation
H319	causes serious eye irritation
H332	harmful if inhaled
H336	may cause drowsiness or dizziness

16.7 **Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.