Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

E-Z WELD 227 FLOWGUARD GOLD MEDIUM BODY YELLOW

Version number: 3.0
Replaces version of: 2025-12-16 (2)

Revision: 2025-12-16

SECTION 1: Identification

1.1 Product identifier

Trade name	**E-Z WELD 227 FLOWGUARD GOLD MEDIUM BODY YELLOW**
Product category/ies	CPVC SOLVENT CEMENT

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

Relevant identified uses	CPVC solvent cement adhesive

1.3 Details of the supplier of the safety data sheet

IPS Corporation (E-Z WELD)
100 Trousdale Way
Hartsville Tennessee
United States

Telephone: (310) 886-7600
Website: www.e-zweld.com

1.4 Emergency telephone number

Emergency information service	24 Hours - CHEMTEL: (800) 255-3924; International (813) 248-0585

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

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

Hazard class	Category
acute toxicity (oral)	4
acute toxicity (inhal.)	4
skin corrosion/irritation	2
serious eye damage/eye irritation	2
skin sensitization	1
carcinogenicity	2
specific target organ toxicity - single exposure (respiratory tract irritation)	3
specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3
flammable liquid	2

For full text of abbreviations: 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 danger

- Pictograms

GHS02, GHS07, GHS08

- Hazard statements

H225	Highly flammable liquid and vapor.
H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.

- Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P312	If swallowed: Call a poison center/doctor if you feel unwell.
P302+P352	If on skin: Wash with plenty of water.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a poison center/doctor if you feel unwell.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling: Proprietary Additive, cyclohexanone, proprietary additive, tetrahydrofuran (impurity - NIAS)

2.3 Other hazards

Hazards not otherwise classified

Contains epoxy constituents. May produce an allergic reaction.
Contains proprietary additive. May produce an allergic reaction.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%
cyclohexanone	CAS No 108-94-1	50 – < 75
methyl ethyl ketone	CAS No 78-93-3	10 – < 25
acetone	CAS No 67-64-1	10 – < 25
Proprietary Additive	CAS No Proprietary	0.1 – < 1
tetrahydrofuran (impurity - NIAS)	CAS No 109-99-9	0.1 – < 1
proprietary additive	CAS No proprietary	0.1 – < 1

Remarks

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

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

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

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, 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.

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

Flash point	1.4 °F closed cup

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate 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 of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice 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.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: 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.

- Specific notes/details

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 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.

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) 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

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	proprietary additive	REL		0.1 (10 h)					ex-C18H34OSn, Sn, H	NIOSH REL
US	proprietary additive	PEL		0.1					Sn	29 CFR 1910.100

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
										0
US	proprietary additive	PEL (CA)		0.1		0.2			Sn, H	Cal/OSHA PEL
US	proprietary additive	TLV®		0.1		0.2			Sn, H	ACGIH® 2025
US	cyclohexanone	PEL	50	200						29 CFR 1910.1000
US	cyclohexanone	PEL (CA)	25	100					H	Cal/OSHA PEL
US	cyclohexanone	REL	25 (10 h)	100 (10 h)					H	NIOSH REL
US	cyclohexanone	TLV®	20	80	50	200			H	ACGIH® 2025
US	tetrahydrofuran (impurity - NIAS)	REL	200 (10 h)	590 (10 h)	250	735				NIOSH REL
US	tetrahydrofuran (impurity - NIAS)	PEL	200	590						29 CFR 1910.1000
US	tetrahydrofuran (impurity - NIAS)	TLV®	50	147	100	295			H	ACGIH® 2025
US	tetrahydrofuran (impurity - NIAS)	PEL (CA)	200	590	250	735				Cal/OSHA PEL
US	acetone	PEL (CA)	500	1,200	750	1,780	3,000			Cal/OSHA PEL
US	acetone	REL	250 (10 h)	590 (10 h)						NIOSH REL
US	acetone	TLV®	250	594	500	1,187				ACGIH® 2025
US	acetone	PEL	1,000	2,400						29 CFR 1910.1000
US	Precipitated Silica Fumed Silica	REL		6 (10 h)						NIOSH REL
US	methyl ethyl ketone	REL	200 (10 h)	590 (10 h)	300	885				NIOSH REL
US	methyl ethyl ketone	PEL	200	590						29 CFR 1910.1000
US	methyl ethyl ketone	TLV®	75		150				H	ACGIH® 2025
US	methyl ethyl ketone	PEL (CA)	200	590	300	885				Cal/OSHA PEL

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

Notation

ex-C18H34OSn	except cyhexatin
H	absorbed through the skin
Sn	calculated as Sn (tin)
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 (unless otherwise specified

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
US	cyclohexanone	1,2-cyclohexanediol	hydr	BEI®	80 mg/l	ACGIH® 2025
US	cyclohexanone	cyclohexanol	hydr	BEI®	8 mg/l	ACGIH® 2025
US	tetrahydrofuran	tetrahydrofuran		BEI®	2 mg/l	ACGIH® 2025
US	acetone	acetone		BEI®	25 mg/l	ACGIH® 2025
US	methyl ethyl ketone	methyl ethyl ketone		BEI®	2 mg/l	ACGIH® 2025

Notation

hydr	hydrolysis

Relevant DNELs of components

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
cyclohexanone	108-94-1	DNEL	10 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
cyclohexanone	108-94-1	DNEL	20 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
cyclohexanone	108-94-1	DNEL	10 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
cyclohexanone	108-94-1	DNEL	20 mg/m³	human, inhalatory	worker (industry)	acute - local effects
cyclohexanone	108-94-1	DNEL	4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
cyclohexanone	108-94-1	DNEL	4 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
methyl ethyl ketone	78-93-3	DNEL	600 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
methyl ethyl ketone	78-93-3	DNEL	1,161 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	1,210 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	2,420 mg/m³	human, inhalatory	worker (industry)	acute - local effects
acetone	67-64-1	DNEL	186 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
tetrahydrofuran (impurity - NIAS)	109-99-9	DNEL	72.4 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
tetrahydrofuran (im-	109-99-9	DNEL	96 mg/m³	human, inhalatory	worker (industry)	acute - systemic ef-

Relevant DNELs of components

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
purity - NIAS)						fects
tetrahydrofuran (impurity - NIAS)	109-99-9	DNEL	150 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
tetrahydrofuran (impurity - NIAS)	109-99-9	DNEL	300 mg/m³	human, inhalatory	worker (industry)	acute - local effects
tetrahydrofuran (impurity - NIAS)	109-99-9	DNEL	12.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
proprietary additive	proprietary	DNEL	0.3 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
proprietary additive	proprietary	DNEL	1.58 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
proprietary additive	proprietary	DNEL	4.25 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
proprietary additive	proprietary	DNEL	8.5 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
cyclohexanone	108-94-1	PNEC	0.356 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
cyclohexanone	108-94-1	PNEC	0.036 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
cyclohexanone	108-94-1	PNEC	10 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
cyclohexanone	108-94-1	PNEC	2.69 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
cyclohexanone	108-94-1	PNEC	0.269 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
cyclohexanone	108-94-1	PNEC	0.328 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	55.8 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	55.8 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	709 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	284.7 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	284.7 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
methyl ethyl ketone	78-93-3	PNEC	22.5 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
acetone	67-64-1	PNEC	10.6 mg/l	aquatic organisms	freshwater	short-term (single instance)
acetone	67-64-1	PNEC	1.06 mg/l	aquatic organisms	marine water	short-term (single instance)
acetone	67-64-1	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
acetone	67-64-1	PNEC	30.4 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
acetone	67-64-1	PNEC	3.04 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
acetone	67-64-1	PNEC	29.5 mg/kg	terrestrial organisms	soil	short-term (single instance)
Proprietary Additive	Proprietary	PNEC	0.07 mg/l	aquatic organisms	freshwater	short-term (single instance)
Proprietary Additive	Proprietary	PNEC	0.007 mg/l	aquatic organisms	marine water	short-term (single instance)
Proprietary Additive	Proprietary	PNEC	9 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Proprietary Additive	Proprietary	PNEC	0.062 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Proprietary Additive	Proprietary	PNEC	0.016 mg/kg	terrestrial organisms	soil	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	4.32 mg/l	aquatic organisms	freshwater	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	0.432 mg/l	aquatic organisms	marine water	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	4.6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	23.3 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	2.33 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
tetrahydrofuran (impurity - NIAS)	109-99-9	PNEC	2.13 mg/kg	terrestrial organisms	soil	short-term (single instance)
proprietary additive	proprietary	PNEC	0.007 mg/l	aquatic organisms	freshwater	short-term (single instance)
proprietary additive	proprietary	PNEC	0.001 mg/l	aquatic organisms	marine water	short-term (single instance)
proprietary additive	proprietary	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
proprietary additive	proprietary	PNEC	0.032 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
proprietary additive	proprietary	PNEC	0.003 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

Relevant PNECs of components						
Name of substance	**CAS No**	**Endpoint**	**Threshold level**	**Organism**	**Environmental compartment**	**Exposure time**
proprietary additive	proprietary	PNEC	0.025 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

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

Physical state	liquid
Color	yellow
Odor	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	56.05 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	not determined
Flash point	-17 °C
Auto-ignition temperature	420 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant

pH (value)	not determined
Solubility(ies)	not determined

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available

Vapor pressure	240 hPa at 20 °C

Density and/or relative density

Density	0.975 $^{g}/_{cm^3}$ at 73 °F
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

Other safety parameters

Flash point	1.4 °F

9.2 Other information

Information with regard to physical hazard classes	there is no additional information

Other safety characteristics

- VOC content	When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: <= 400 g/L.
Temperature class (USA, acc. to NEC 500)	T2 (maximum permissible surface temperature on the equipment: 300°C)

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.

10.5 Incompatible materials

Oxidizers

10.6 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

Harmful if swallowed. Harmful if inhaled.
GHS of the United Nations, annex 4: May be harmful in contact with skin.

- Acute toxicity estimate (ATE)

Oral	889.1 $^{mg}/_{kg}$
Inhalation: vapor	>11.48 $^{mg}/_{l}$/4h

Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
cyclohexanone	108-94-1	oral	500 $^{mg}/_{kg}$
cyclohexanone	108-94-1	dermal	1,100 $^{mg}/_{kg}$
cyclohexanone	108-94-1	inhalation: vapor	>6.2 $^{mg}/_{l}$/4h
methyl ethyl ketone	78-93-3	oral	2,054 $^{mg}/_{kg}$
Proprietary Additive	Proprietary	oral	500 $^{mg}/_{kg}$
Proprietary Additive	Proprietary	dermal	1,100 $^{mg}/_{kg}$
Proprietary Additive	Proprietary	inhalation: vapor	>6.3 $^{mg}/_{l}$/4h
tetrahydrofuran (impurity - NIAS)	109-99-9	oral	500 $^{mg}/_{kg}$
tetrahydrofuran (impurity - NIAS)	109-99-9	dermal	>2,000 $^{mg}/_{kg}$
proprietary additive	proprietary	oral	396 $^{mg}/_{kg}$
proprietary additive	proprietary	dermal	777 $^{mg}/_{kg}$
proprietary additive	proprietary	inhalation: vapor	3 $^{mg}/_{l}$/4h
proprietary additive	proprietary	inhalation: dust/mist	0.941 $^{mg}/_{l}$/4h

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
May cause an allergic skin reaction.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Name of substance	CAS No	Classification	Number
cyclohexanone	108-94-1	3	
Proprietary Additive	Proprietary	2B	
tetrahydrofuran (impurity - NIAS)	109-99-9	2B	

Legend

2B	Possibly carcinogenic to humans
3	Not classifiable as to carcinogenicity in humans

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability
Data are not available.

12.3 Bioaccumulative potential
Data are not available.

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%.

12.6 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

12.7 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

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

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

DOT	UN 1133
IMDG-Code	UN 1133
ICAO-TI	UN 1133

14.2 UN proper shipping name

DOT	Adhesives
IMDG-Code	ADHESIVES
ICAO-TI	Adhesives

14.3 Transport hazard class(es)

DOT	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

DOT	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

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 IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration	UN1133, Adhesives, 3, II
Reportable quantity (RQ)	9,495 lbs (4,311 kg) (cyclohexanone) (Proprietary Additive)
Danger label(s)	3

Special provisions (SP)	149, B52, IB2, T4, TP1, TP8
ERG No	128

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	- (not hazardous to the aquatic environment)
Danger label(s)	3

Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s)	3

Special provisions (SP)	A3
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	**CAS No**	**Remarks**	**Effective date**
Proprietary Additive	Proprietary		1987-01-01

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
methyl ethyl ketone	78-93-3		4	5000 (2270)
cyclohexanone	108-94-1		4	5000 (2270)
acetone	67-64-1		4	5000 (2270)
Proprietary Additive	Proprietary		3	100 (45,4)
tetrahydrofuran (impurity - NIAS)	109-99-9		4	1000 (454)

Legend

3 "3" indicates that the source is section 112 of the Clean Air Act
4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	CAS No	Functionality	Authoritative Lists
methyl ethyl ketone	78-93-3		ATSDR Neurotoxicants CA TACs OEHHA RELs
acetone	67-64-1		ATSDR Neurotoxicants
Proprietary Additive	Proprietary		CA TACs IARC Carcinogens - 2B OEHHA RELs
tetrahydrofuran (impurity - NIAS)	109-99-9		IARC Carcinogens - 2B IRIS Neurotoxicants Prop 65
proprietary additive	Proprietary		OSPAR Priority Action Part A

- Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concen-tration Threshold
methyl ethyl ketone	78-93-3				1.0 %
cyclohexanone	108-94-1				1.0 %
acetone	67-64-1				1.0 %
Proprietary Additive	Proprietary				0.1 %
tetrahydrofuran (impurity - NIAS)	109-99-9				1.0 %

- Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
methyl ethyl ketone	78-93-3	A, N, O	
cyclohexanone	108-94-1	A, N, O	skin
acetone	67-64-1	A, N, O	

Legend

A	American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
N	National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer
O	Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division
skin	If a potential for absorption from skin contact merits special consideration, the word "skin" follows the substance name.

- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
methyl ethyl ketone	78-93-3		F3
cyclohexanone	108-94-1		F2
acetone	67-64-1		F3
Proprietary Additive	Proprietary		CA MU F3 R2
tetrahydrofuran (impurity - NIAS)	109-99-9		F3 R1

Legend

CA	Carcinogenic
F2	Flammable - Second Degree
F3	Flammable - Third Degree
MU	Mutagenic
R1	Reactive - First Degree
R2	Reactive - Second Degree

- Hazardous Substance List (Chapter 323) (PA-RTK)

Name of substance	CAS No	Classification
methyl ethyl ketone	78-93-3	E
cyclohexanone	108-94-1	E
acetone	67-64-1	E
Proprietary Additive	Proprietary	E
tetrahydrofuran (impurity - NIAS)	109-99-9	E

Legend

E	Environmental hazard

- Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
methyl ethyl ketone	78-93-3	T, F
cyclohexanone	108-94-1	T, F
acetone	67-64-1	T, F
proprietary additive	Proprietary	T
Proprietary Additive	Proprietary	F
tetrahydrofuran (impurity - NIAS)	109-99-9	T, F
tetrahydrofuran (impurity - NIAS)	109-99-9	T, F
tetrahydrofuran (impurity - NIAS)	109-99-9	T, F

Legend

F Flammability (NFPA®)
T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals

Name acc. to inventory	CAS No	Remarks	Type of the toxicity
tetrahydrofuran	109-99-9		cancer
vinyl chloride	75-01-4		cancer

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	2	temporary or minor injury may occur
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

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

Category	Degree of hazard	Description
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Health	2	material that, under emergency conditions, can cause temporary incapacitation or resid-

Category	Degree of hazard	Description
		ual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.7	Reportable quantity (RQ): 9,495 lbs (4,311 kg) (cyclohexanone) (methyl ethyl ketone)	Reportable quantity (RQ): 9,495 lbs (4,311 kg) (cyclohexanone) (Proprietary Additive)	yes
15.1	Toxic Substance Control Act (TSCA): not all ingredients are listed (ACTIVE)	Toxic Substance Control Act (TSCA): all ingredients are listed (ACTIVE)	yes
15.1		List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4): change in the listing (table)	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2025	From ACGIH®, 2025 TLVs® and BEIs® Book. Copyright 2025. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association

Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
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
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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).

Disclaimer

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