Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

CHARLIE 412L CPVC REGULAR BODY

Version number: 1.0 Date of compilation: 2023-04-12

SECTION 1: Identification

1.1 Product identifier

Trade name **CHARLIE 412L CPVC REGULAR BODY**

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

Relevant identified uses adhesive
CPVC solvent cement

1.3 Details of the supplier of the safety data sheet

RectorSeal
2601 Spenwick Drive
Houston Texas 77055
United States

Telephone: 713-263-8001
Website: rectorseal.com

1.4 Emergency telephone number

Emergency information service Chemtrec 24 Hours: (800) 424-9300 USA / (703) 527-3887 International

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
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



- 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.

- Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against 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/eye protection/face 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/ 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	Take off contaminated clothing and wash before reuse.
P363	Wash contaminated clothing 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, acetone

2.3 Other hazards

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) 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%	Classification acc. to GHS
cyclohexanone	CAS No 108-94-1	25 – < 50	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 Flam. Liq. 3 / H226
acetone	CAS No 67-64-1	25 – < 50	Eye Irrit. 2 / H319 STOT SE 3 / H336 Flam. Liq. 2 / H225
methyl ethyl ketone	CAS No 78-93-3	10 – < 25	Eye Irrit. 2 / H319 STOT SE 3 / H336 Flam. Liq. 2 / H225
proprietary additive	CAS No proprietary	1 – < 5	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317
proprietary additive	CAS No proprietary	< 1	Acute Tox. 4 / H302 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Muta. 2 / H341 STOT SE 1 / H370 STOT RE 1 / H372

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

Carbon monoxide (CO), Carbon dioxide (CO2)

Flash point	1.4 °F

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 agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	tin, organic compounds		PEL (CA)		0.1		0.2			Sn	Cal/OSHA PEL
US	tin, organic compounds		REL		0.1 (10 h)					Sn	NIOSH REL
US	tin, organic compounds		PEL		0.1					Sn	29 CFR 1910.1000
US	tin, organic compounds		TLV®		0.1		0.2			Sn, H	ACGIH® 2023
US	cyclohexanone	108-94-1	PEL (CA)	25	100						Cal/OSHA PEL
US	cyclohexanone	108-94-1	REL	25 (10 h)	100 (10 h)						NIOSH REL
US	cyclohexanone	108-94-1	PEL	50	200						29 CFR 1910.1000
US	cyclohexanone	108-94-1	TLV®	20		50				H	ACGIH® 2023

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	acetone	67-64-1	PEL (CA)	500	1,200	750	1,780	3,000			Cal/OSHA PEL
US	acetone	67-64-1	REL	250 (10 h)	590 (10 h)						NIOSH REL
US	acetone	67-64-1	TLV®	250		500					ACGIH® 2023
US	acetone	67-64-1	PEL	1,000	2,400						29 CFR 1910.1000
US	2-butanone	78-93-3	REL	200 (10 h)	590 (10 h)	300	885				NIOSH REL
US	2-butanone (methyl ethyl ketone)	78-93-3	PEL	200	590						29 CFR 1910.1000
US	methyl ethyl ketone	78-93-3	TLV®	200		300					ACGIH® 2023
US	methyl ethyl ketone (MEK) (2-butanone) (ethyl methyl ketone)	78-93-3	PEL (CA)	200	590	300	885				Cal/OSHA PEL

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
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® 2023
US	cyclohexanone	cyclohexanol	hydr	BEI®	8 mg/l	ACGIH® 2023
US	acetone	acetone		BEI®	25 mg/l	ACGIH® 2023
US	methyl ethyl ketone	methyl ethyl ketone		BEI®	2 mg/l	ACGIH® 2023

Notation

hydr	hydrolysis

Relevant DNELs of components of the mixture

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
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
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
proprietary additive	proprietary	DNEL	4.7 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
proprietary additive	proprietary	DNEL	6.66 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 of the mixture

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)

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
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)
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)
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)
proprietary additive	proprietary	PNEC	0.024 mg/l	aquatic organisms	freshwater	short-term (single instance)
proprietary additive	proprietary	PNEC	0.002 mg/l	aquatic organisms	marine water	short-term (single instance)

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
proprietary additive	proprietary	PNEC	100 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
proprietary additive	proprietary	PNEC	0.084 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
proprietary additive	proprietary	PNEC	0.008 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
proprietary additive	proprietary	PNEC	0.003 $^{mg}/_{kg}$	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)
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

Appearance

Physical state	liquid
Color	orange
Particle	not relevant (liquid)
Odor	characteristic

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	56.05 °C
Flash point	-17 °C
Flash point	1.4 °F
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	240 hPa at 20 °C
Density	0.934 $^{g}/_{cm^3}$ at 73 °F
Vapor density	this information is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	260 °C (auto-ignition temperature (liquids and gases))

Viscosity

- Dynamic viscosity	100 – 200 cP at 73 °F
Explosive properties	none
Oxidizing properties	none

9.2 Other information

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)	T2C (maximum permissible surface temperature on the equipment: 230°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.

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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 1,370 $^{mg}/_{kg}$
Inhalation: vapor 16.78 $^{mg}/_{l}$/4h

Acute toxicity estimate (ATE) of components of the mixture

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
proprietary additive	proprietary	oral	1,163 $^{mg}/_{kg}$
proprietary additive	proprietary	inhalation: vapor	11 $^{mg}/_{l}$/4h
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

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	**CAS No**	**Classification**	**Number**
cyclohexanone	108-94-1	3	

Legend
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

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0.1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) 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)	13,866 lbs (6,295 kg) (cyclohexanone) (acetone)
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	-
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 as "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)

none of the ingredients are listed

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)

Legend
4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

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

Name of substance	CAS No	Functionality	Authoritative Lists
acetone	67-64-1		ATSDR Neurotoxicants
methyl ethyl ketone	78-93-3		ATSDR Neurotoxicants CA TACs OEHHA RELs
proprietary additive	7440-31-5		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 Concentration Threshold
methyl ethyl ketone	78-93-3				1.0 %
cyclohexanone	108-94-1				1.0 %
acetone	67-64-1				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	
proprietary additive		N, *	

Legend
* Substances which are regulated by OSHA as carcinogens; have been categorized by the ACGIH as either "human carcinogens" or

Legend

	"suspect of carcinogenic potential for man"; have been evaluated by the International Agency for Research on Cancer (IARC) and found to be carcinogens or potential carcinogens; or have been listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP).
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

Legend

F2	Flammable - Second Degree
F3	Flammable - Third Degree

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

Name acc. to inventory	CAS No	Classification
2-BUTANONE	78-93-3	E
CYCLOHEXANONE	108-94-1	E
2-PROPANONE	67-64-1	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	7440-31-5	T

Legend

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

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 residual 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
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not 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
TW	TCSI	all ingredients are listed

Country	Inventory	Status
US	TSCA	all ingredients are listed (ACTIVE)
EU	REACH Reg.	not all ingredients are listed
TR	CICR	not all ingredients are listed

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
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
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

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® 2023	From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. 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
Acute Tox.	Acute toxicity
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)

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Abbr.	Descriptions of used abbreviations
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
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
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
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
Muta.	Germ cell mutagenicity
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)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitization

Abbr.	Descriptions of used abbreviations
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
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).

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

Code	Text
H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.

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Disclaimer

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