

SAFETY DATA SHEET

Version: 01
Date of Issue: 23/02/2021
Date of First Issue: 23/02/2021

www.vishaypg.com

ACCORDING TO: Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, 2020) & GHS 7

SECTION 1: IDENTIFICATION

Product identifier used on the label	CSM-3
Other means of identification	None
Recommended use of the chemical and restrictions on use	
Recommended use	Metal surface treatment products, including galvanic and electroplating products
Restrictions on use	None known.
Supplier/Manufacturer name, address and telephone number	
Supplier/Manufacturer	VISHAY MEASUREMENTS GROUP, INC.
Address	Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	+1 919-365-3800
Fax	+1 919-365-3945
E-Mail (competent person)	mm.us@vpgsensors.com
Importer/Distributor name, address and telephone number	To be added by Australian importer/distributor
Name	
Address	
Telephone	
Emergency telephone number	61-290372994 (for spills and releases) CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

In accordance with the Safe Work Australia model Work Health and Safety Regulations (2020) & GHS 7

Aerosol, Category 1
Eye damage/irritation, Category 2
Acute toxicity, Inhalation, Category 4;
Specific target organ toxicity — single exposure, Category 3 (Narcotic effects)
Hazardous to the aquatic environment, Chronic, Category 3

Label elements

Hazard Symbol



Flame



Exclamation mark

Signal Word(s)

DANGER

Hazard Statement(s)

H222: Extremely flammable aerosol.
H229: Pressurised container: May burst if heated.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H336: May cause drowsiness or dizziness.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

P261: Avoid breathing spray.

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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.
P273: Avoid release to the environment.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211: Do not spray on an open flame or other ignition source.
P410+P412: Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.
P251: Do not pierce or burn, even after use.

Other Hazards

None assigned

Other Hazards that do not Result in Classification

May cause cardiac arrhythmia. Ingestion may cause irritation of the gastrointestinal tract.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard classification
Trans-dichloroethylene	>90	156-60-5	205-860-2	Flammable Liquid, Category 2 Eye Damage/Irritation, Category 2 Acute toxicity, Inhalation, Category 4 Specific target organ toxicity — single exposure, Category 3 (Narcotic effects) Hazardous to the aquatic environment, Chronic, Category 3
Carbon dioxide	>1 - <10	124-38-9	204-696-9	Compressed gas

SECTION 4: FIRST AID MEASURES



Description of first aid measures

First aid facilities

Self-protection of the first aider

Inhalation

Skin Contact

Eye Contact

Ingestion

Eyewash facilities should be stationed close to workplace where possible.

Avoid breathing spray. Ensure adequate ventilation. Wear suitable protective clothing. Wear suitable respiratory protective equipment if exposure to high levels of material are likely. Avoid contact with skin, eyes or clothing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

IF ON SKIN: Gently wash with plenty of soap and water. Remove contaminated clothing and wash clothing before reuse. If irritation (redness, rash, blistering) develops, get medical attention.

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.

IF SWALLOWED: Rinse mouth. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting. If symptoms occur obtain medical attention.

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Most important symptoms and effects, both acute and delayed

Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May cause cardiac arrhythmia. Ingestion may cause irritation of the gastrointestinal tract.

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

Special hazards arising from the chemical

Extremely flammable aerosol. Thermal decomposition will evolve toxic and corrosive vapours. Carbon dioxide, Carbon monoxide, Phosgene and Hydrogen chloride. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. Sealed containers may rupture explosively if hot.

Special protective equipment and precautions for fire fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

Hazchem Code

None assigned

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing spray. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8. The vapour is heavier than air; beware of pits and confined spaces.

Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

Methods and material for containment and cleaning up

Ensure suitable personal protection during removal of spillages. Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do NOT absorb in saw-dust or other combustible absorbents. Transfer to a lidded container for disposal or recovery. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste. Allow small spillages to evaporate provided there is adequate ventilation.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure adequate ventilation. Avoid breathing spray. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Do not use sparking tools. Do not spray on an open flame or other ignition source. Pressurised container - Do not pierce or burn, even after use. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Do not reuse empty containers.

Storage temperature

Keep cool. Do not expose to temperatures exceeding 50°C/ 122°F.

Storage life

Stable under normal conditions.

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Incompatible materials

Isolate from reducers and flammable/ combustible materials etc in storage. Keep away from: Strong oxidising agents, Acids and Alkalis.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

Chemical name	Synonym(s)	CAS No.	TWA (ppm)	TWA (mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Advisory carcinogen category	Other advisory information	Notes
Carbon Dioxide	-	124-38-9	5000	9000	30000	54000	-	-	-

Source: Safe Work Australia Workplace Exposure Standards for Airborne Contaminants (2019)

Substance	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note	Source
Trans-dichloroethylene	156-60-5	200	-	-	-	-	ACGIH
		200	800	-	-	-	MAK/TRGS

Source:

ACGIH (USA): American Conference of Governmental Industrial Hygienists - Threshold limit values (TLV) (2019)

MAK/TRGS (Germany): MAK- und BAT-Werte-Liste (2020) / Die Technischen Regeln für Gefahrstoffe (TRGS) 900 (2020)

Biological exposure indicies

Not established

Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Local exhaust recommended. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Eyewash facilities should be stationed close to workplace where possible.

Individual protection measures, such as personal protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Avoid contact with skin, eyes or clothing. Avoid breathing mist/vapours/spray. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned.

Eye/face protection



Wear eye protection with side protection (EN166).

Skin protection



Hand protection: Not normally required. Wear suitable gloves if prolonged skin contact is likely. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Recommended: Wear work clothes with long sleeves.

Respiratory protection



Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of high concentrations of vapours.

High concentrations: Wear suitable respiratory equipment. Recommended: Self-contained breathing apparatus (DIN EN 137)

Thermal hazards

Not applicable.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Colour	Colourless
Odour	Sharp, Harsh
Melting point and freezing point	- 50 °C
Boiling point or initial boiling point and boiling range	48 °C
Flammability	Not applicable
Lower and upper explosion limit or lower and upper flammability limit	9.7 – 12.8 %
Flash point	2 – 4 °C
Auto-ignition temperature	Not established.
Decomposition temperature	Not established.
pH	Not established.
Kinematic viscosity	Not established.
Solubility	Soluble in water. 6.3 mg/ml @ 25 °C
Partition coefficient n-octanol/water (log value)	Not established.
Vapour pressure	Not determined.
Density and Relative density	1.28 g/ml @ 20 °C
Relative vapour density	Not determined.
Particle characteristics	Not applicable (Liquid)

Additional parameters

Volatile Organic Compound Content	96%
Evaporation Rate	2.80
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Extremely flammable aerosol. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep from direct sunlight. Do not expose to temperatures exceeding 50°C/ 122°F. Do not spray on an open flame or other ignition source. Take precautionary measures against static discharge.
Incompatible materials	Isolate from reducers and flammable/ combustible materials etc in storage. Keep away from: Strong oxidising agents, Acids and Alkalis.
Hazardous decomposition product(s)	Thermal decomposition will evolve toxic and corrosive vapours. Carbon dioxide, Carbon monoxide, Phosgene and Hydrogen chloride.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

(Substances in preparations / mixtures)

Acute toxicity

Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Inhalation	Acute toxicity, Inhalation, Category 4; Harmful if inhaled. Acute Toxicity Estimate Mixture Calculation: Estimated LC50: >10 – ≤20 mg/l
Trans-dichloroethylene	Acute toxicity, Inhalation, Category 4. EU Harmonised Classification. LC50 11 mg/l (Acute Toxicity Estimate)
Dermal	Based upon the available data, the classification criteria are not met.

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Skin corrosion/irritation	Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met. Serious eye damage/irritation, Category 2; Causes serious eye irritation.
Trans-dichloroethylene	Serious eye damage/irritation, Category 2 Irritating to eyes. (rabbit) – OECD 405
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Specific target organ toxicity (single exposure), Category 3 (narcotic effects); May cause drowsiness or dizziness.
Trans-dichloroethylene	Specific target organ toxicity (single exposure), Category 3 (narcotic effects).
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
Information on likely routes of exposure	
Inhalation	Possible route of exposure.
Ingestion	Unlikely route of exposure.
Skin Contact	Possible route of exposure.
Eye Contact	Unlikely route of exposure.
Early onset symptoms related to exposure	Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May cause cardiac arrhythmia. Ingestion may cause irritation of the gastrointestinal tract.
Delayed health effects from exposure	None Known
Exposure levels and health effects	See section 8
Interactive effects	None Known
Other information	None Known
NTP Report on Carcinogens	No components listed.
IARC Monographs	No components listed.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Hazardous to the aquatic environment, Chronic, Category 3; Harmful to aquatic life with long lasting effects. Estimated Mixture LC50 >10 ≤ 100 mg/l (Fish)
Trans-dichloroethylene	Hazardous to the aquatic environment, Chronic, Category 3. EU Harmonised Classification.
Persistence and degradability	No data for the mixture as a whole.
Bioaccumulative potential	No data for the mixture as a whole.
Mobility in soil	No data for the mixture as a whole. The product is predicted to have high mobility in soil (Highly volatile. May evaporate quickly.)
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Safe handling and disposal methods	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility.
Disposal of contaminated packaging	Do not reuse empty containers. Do not pierce or burn container, even after use.
Environmental regulations	Avoid release to the environment. Dispose of contents in accordance with local, state or national legislation.

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SECTION 14: TRANSPORT INFORMATION

	ADG	IMDG	IATA/ICAO
UN number	UN 1950	UN 1950	UN 1950
Proper Shipping Name	AEROSOLS, flammable	AEROSOLS, flammable	AEROSOLS, flammable
Transport hazard class(es)	2	2	2
Packing group	None assigned	None assigned	None assigned
Environmental hazards	Not classified as a Marine Pollutant./ Environmentally hazardous substance		
Special precautions for user	See Section: 2		
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
Hazchem code	None assigned		
Additional Information	Recommended: Road/Rail/Sea transport only.		

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations (for example)

Montreal Protocol/Stockholm Convention/ Rotterdam Convention/ Basel Convention / MARPOL All chemicals are not listed

National Regulations

Australian Inventory of Chemical Substances (AICS) All components are listed on AICS

NICNAS - Priority Existing Chemicals All chemicals are not listed

NICNAS - IMAP Framework Carbon dioxide: Tier I: Human Health Assessment

NICNAS - High Volume Industrial Chemical List Trans-dichloroethylene: Tier I: Human Health Assessment

National Pollutant Inventory Carbon dioxide: Threshold Range: Between 100,000 and 999,999 tonnes

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) Carbon dioxide: Not listed

Trans-dichloroethylene: Not listed

Carbon dioxide: Not listed

Trans-dichloroethylene: VOC - Threshold Categories = 1a, 2a, 2b

Carbon dioxide: Not listed

Trans-dichloroethylene: see Appendix F, Part 3 of SUSMP

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: not applicable – V1.0

Version: 1.0

Revision Date: not applicable – V1.0

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References: Safety Data Sheets for ingoing ingredients. EU Data: Harmonised Classification and Existing ECHA registration(s) for Trans-dichloroethylene (CAS No. 156-60-5); EU classification and labelling inventory for Carbon dioxide (CAS No. 124-38-9).

The mixture is classified in accordance with Safe Work Australia model Work Health and Safety Regulations (2020) & GHS 7

LEGEND

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA	International Air Transport Association
IARC	International Agency for Research on Cancer
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LTEL	Long term exposure limit
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
NTP	National Toxicology Program
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL	Short term exposure limit
TWA	Time Weighted Average

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Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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