

Scroll down for all Safety Data Sheets (SDS) for this product.

Total Enclosures: 2



Safety Data Sheet

Version number: 10.1
SDS# R1002

2021-05-27

SECTION 1: Identification

1.1 Product identifier

Trade name **R-1000 and R-1000E Double-Tipped Ampoules**
Other means of identification Double-Tipped Ampoules for Filming Amines
CHEMetrics® Kits and Refills

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

Component of water analysis test kits: Refills R-1000, R-1000E and Kits K-1001, K-1001E

1.3 Details of the supplier of the safety data sheet

CHEMetrics, Inc.
4295 Catlett Road
Midland VA 22728
United States

Telephone: 1-540-788-9026
Telefax: 1-540-788-4856
e-mail: technical@chemetrics.com
Website: www.chemetrics.com

1.4 Emergency telephone number

Emergency information service ChemTel Inc.: 1-800-255-3924, +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.11	acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.6	carcinogenicity	2	Carc. 2	H351
3.7	reproductive toxicity	2	Repr. 2	H361d
3.9	specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1A	hazardous to the aquatic environment - acute hazard	3	Aquatic Acute 3	H402

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Labeling

- Signal word danger

- Pictograms

GHS05, GHS06, GHS08



- Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.

- Precautionary statements

P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of water.
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.
P311	Call a POISON CENTER/doctor.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in a corrosion resistant container with a resistant inner liner.
P501	Dispose of contents/container to industrial combustion plant.





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	Pictograms
chloroform	CAS No 67-66-3	71	Acute Tox. 4 / H302 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Carc. 2 / H351 Repr. 2 / H361d STOT RE 1 / H372	
water	CAS No 7732-18-5	16		
Acetic acid	CAS No 64-19-7	9	Skin Corr. 1A / H314 Eye Dam. 1 / H318 Flam. Liq. 3 / H226	
Sodium chloride	CAS No 7647-14-5	2		
hydrochloric acid	CAS No 7647-01-0	1	Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Met. Corr. 1 / H290	
sodium acetate, trihydrate	CAS No 6131-90-4	1		
Methyl Orange	CAS No 547-58-0	≤ 0.1	Acute Tox. 3 / H301	

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

Symptoms and effects are not known to date.

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

Substance or mixture corrosive to metals.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen chloride (HCl)

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

Wear Impact- and splash-resistant eyewear.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

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

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.

- Packaging compatibilities

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

7.3 Other information

For optimum analytical performance, store in the dark and at room temperature.

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/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	acetic acid	64-19-7	PEL (CA)	10	25	15	37	40			Cal/ OSHA PEL
US	acetic acid	64-19-7	REL	10 (10 h)	25 (10 h)	15	37				NIOSH REL
US	acetic acid	64-19-7	TLV®	10		15					ACGIH® 2021
US	acetic acid	64-19-7	PEL	10	25						29 CFR 1910.1000

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	chloroform	67-66-3	TLV®	10							ACGIH® 2021
US	chloroform	67-66-3	REL			2 (60 min)	9.78 (60 min)			appx-A	NIOSH REL
US	chloroform (trichloromethane)	67-66-3	PEL (CA)	2	9.78						Cal/ OSHA PEL
US	trichloromethane (chloroform)	67-66-3	PEL					50	240		29 CFR 1910.1000
US	hydrogen chloride	7647-01-0	REL					5	7		NIOSH REL
US	hydrogen chloride	7647-01-0	TLV®					2			ACGIH® 2021
US	hydrogen chloride	7647-01-0	PEL					5	7		29 CFR 1910.1000
US	hydrogen chloride (muriatic acid) (hydrochloric acid)	7647-01-0	PEL (CA)	0.3	0.45			2			Cal/ OSHA PEL

Notation

appx-A

NIOSH Potential Occupational Carcinogen (Appendix A)

Ceiling-C

ceiling value is a limit value above which exposure should not occur

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)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
chloroform	67-66-3	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
chloroform	67-66-3	DNEL	333 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
chloroform	67-66-3	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
chloroform	67-66-3	DNEL	0.94 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
chloroform	67-66-3	PNEC	0.146 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
chloroform	67-66-3	PNEC	0.015 mg/l	aquatic organisms	marine water	short-term (single instance)
chloroform	67-66-3	PNEC	0.048 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
chloroform	67-66-3	PNEC	0.45 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
chloroform	67-66-3	PNEC	0.09 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
chloroform	67-66-3	PNEC	0.56 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

Product description Double-Tipped Ampoules: Glass ampoules with dual tapered tips. Each double-tipped ampoule contains approximately 4 mL of liquid reagent. Refills and test kits contain 20 double-tipped ampoules.

Appearance

Physical state	liquid
Color	Two phase - Reddish orange / Colorless to pale yellow
Particle	not relevant (liquid)
Odor	characteristic

Other safety parameters

pH (value)	1.18 (aqueous layer)
Melting point/freezing point	not determined
Initial boiling point and boiling range	117.9 °C at 101.3 kPa
Flash point	118 °C at 101.3 kPa
Evaporation rate	Not determined
Flammability (solid, gas)	not relevant, (fluid)

Explosive limits

- Lower explosion limit (LEL)	4 vol%
- Upper explosion limit (UEL)	19.9 vol%
Vapor pressure	20.79 hPa at 25 °C
Density	not determined
Vapor density	this information is not available
Relative density	1.49 (chloroform layer)
Solubility(ies)	Partly miscible

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	463 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

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. Toxic if inhaled.

- Acute toxicity estimate (ATE)

Oral 1,279 mg/kg
Inhalation: vapor 4.225 mg/l/4h

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
chloroform	67-66-3	oral	908 mg/kg
chloroform	67-66-3	inhalation: vapor	3 mg/l/4h
Methyl Orange	547-58-0	oral	60 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

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
hydrochloric acid	7647-01-0	3	
chloroform	67-66-3	2B	

Legend

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

National Toxicology Program (United States): Report on Carcinogens

Name of substance	CAS No	Classification	Number
chloroform	67-66-3	Reasonably anticipated to be a human carcinogen	2nd Report on Carcinogens

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information**12.1 Toxicity**

Harmful to aquatic life.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
chloroform	67-66-3	EC50	152.5 mg/l	aquatic invertebrates	48 h
chloroform	67-66-3	ErC50	13.3 mg/l	algae	72 h
Acetic acid	64-19-7	LC50	>1,000 mg/l	fish	96 h

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Acetic acid	64-19-7	EC50	>1,000 mg/l	aquatic invertebrates	48 h
Acetic acid	64-19-7	ErC50	>1,000 mg/l	algae	72 h

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

Data are not available.

12.6 Endocrine disrupting properties

Information on this property is not available.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

please consider the relevant national or regional provisions

SECTION 14: Transport information

14.1 UN number

DOT	UN 2922
IMDG-Code	UN 2922
ICAO-TI	UN 2922

14.2 UN proper shipping name

	UN2922, Corrosive liquid, toxic, n.o.s., (contains: Acetic acid, chloroform), 8 (6.1), III
DOT	Corrosive liquid, toxic, n.o.s.
IMDG-Code	CORROSIVE LIQUID, TOXIC, N.O.S.
ICAO-TI	Corrosive liquid, toxic, n.o.s.
Technical name (hazardous ingredients)	Acetic acid, chloroform

14.3 Transport hazard class(es)

DOT	8 (6.1)
-----	---------

IMDG-Code	8 (6.1)
-----------	---------

ICAO-TI	8 (6.1)
---------	---------

14.4 Packing group

DOT	III
-----	-----

IMDG-Code	III
-----------	-----

ICAO-TI	III
---------	-----

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Other relevant information

Shipping container markings and labels, received from CHEMetrics, may vary from the above information. Products that are regulated for transport will be packaged by CHEMetrics as Dangerous Goods in Excepted Quantities according to IATA, US DOT, and IMDG regulations. CHEMetrics may also elect to ship certain products as UN 3316 Chemical Kit, Hazard Class 9, Packing Group II or III. In case of reshipment, it is the responsibility of the shipper to determine appropriate labels and markings in accordance with applicable transportation regulations.

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

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

Reportable quantity (RQ)	14.08 lbs (6.394 kg) (chloroform) (Acetic acid)
--------------------------	---

Danger label(s)	8+6.1
-----------------	-------



Special provisions (SP)	IB3, T7, TP1, TP28
-------------------------	--------------------

ERG No	154
--------	-----

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	-
------------------	---

Danger label(s)	8+6.1
-----------------	-------



Special provisions (SP)	223, 274
-------------------------	----------

Excepted quantities (EQ)	E1
--------------------------	----

Limited quantities (LQ)	5 L
-------------------------	-----

EmS	F-A, S-B
-----	----------

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

Danger label(s) 8+6.1



Special provisions (SP) A3

Excepted quantities (EQ) E1

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)****Superfund Amendment and Reauthorization Act (SARA TITLE III)**

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

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities

Name of substance	CAS No	Notes	Reportable quantity (pounds)	Threshold planning quantity (pounds)
hydrochloric acid	7647-01-0	f	5,000	500
chloroform	67-66-3	f	10	10000

Legend

f Chemical on the original list that does not meet toxicity criteria but because of its acute lethality, high production volume and known risk is considered chemical of concern ("Other chemicals"). (November 17, 1986, and February 15, 1990.)

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

Name of substance	CAS No	Remarks	Effective date
hydrochloric acid	7647-01-0	acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size	1986-12-31
chloroform	67-66-3		1986-12-31

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)
Acetic acid	64-19-7		1	5000 (2270)
hydrochloric acid	7647-01-0		1 3	5000 (2270)
chloroform	67-66-3		1 2 3 4	10 (4,54)
chloroform				

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
 2 "2" indicates that the source is section 307(a) of the Clean Water Act
 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)

Clean Air Act

Name of substance	CAS No	Type of registration	Basis for listing	Threshold quantity (lbs)
hydrochloric acid	7647-01-0	Toxic substance	a	5000
hydrochloric acid	7647-01-0	Toxic substance	d	15000
chloroform	67-66-3	Toxic substance	b	20000

Legend

- a Mandated for listing by Congress.
 b On EHS list, vapor pressure 10 mmHg or greater.
 d Toxicity of hydrogen chloride, potential to release hydrogen chloride, and history of accidents.

Right to Know Hazardous Substance List**- Hazardous Substance List (NJ-RTK)**

Name of substance	CAS No	Remarks	Classifications
Acetic acid	64-19-7		CO F2
hydrochloric acid	7647-01-0		CO R1
chloroform	67-66-3		CA

Legend

- CA Carcinogenic
 CO Corrosive
 F2 Flammable - Second Degree
 R1 Reactive - First Degree

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
chloroform	67-66-3		cancer
chloroform	67-66-3		developmental

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	1	material that must be preheated before ignition can occur
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	1	material that must be preheated before ignition can occur
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	AICS	all ingredients are listed
CA	DSL	not all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	not all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed

Country	Inventory	Status
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	not all ingredients are listed

Legend

AICS	Australian Inventory of Chemical Substances
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

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 chapter 2 and 3)

Code	Text
H226	Flammable liquid and vapor.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

Code	Text
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.

Disclaimer

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



Safety Data Sheet

Version number: 10.1
SDS# R1001

2021-05-27

SECTION 1: Identification

1.1 Product identifier

Trade name **R-1000, R-1000E, and R-9400 CHEMetrics Ampoules**

Other means of identification CHEMetrics® Ampoules for Filming Amines
CHEMetrics® Kit & Refill (R-1001) and for Detergents
CHEMetrics® Kit & Refill (R-9401)

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

Component of water analysis test kits: R-1000, R-1000E, R-9400 and test kits K-1001, K-1001E, K-9400

1.3 Details of the supplier of the safety data sheet

CHEMetrics, Inc.
4295 Catlett Road
Midland VA 22728
United States

Telephone: 1-540-788-9026
Telefax: 1-540-788-4856
e-mail: technical@chemetrics.com
Website: www.chemetrics.com

1.4 Emergency telephone number

Emergency information service ChemTel Inc.: 1-800-255-3924, +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	3	Flam. Liq. 3	H226
3.1D	acute toxicity (dermal)	5	Acute Tox. 5	H313
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Labeling

- Signal word danger

- Pictograms

GHS02, GHS05, GHS07



- Hazard statements

H226 Flammable liquid and vapor.
 H313 May be harmful in contact with skin.
 H318 Causes serious eye damage.
 H336 May cause drowsiness or dizziness.

- Precautionary statements

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 discharges.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear eye protection/face protection.
 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.
 P310 Immediately call a POISON CENTER/doctor.
 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.

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	Pictograms
propan-1-ol	CAS No 71-23-8	98	Eye Dam. 1 / H318 STOT SE 3 / H336 Flam. Liq. 3 / H226	

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
water	CAS No 7732-18-5	2		

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. 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.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

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

Wear impact- and splash-resistant eyewear. Break the ampoule tip only when it is completely immersed in sample. Breaking the tip in air may cause the glass ampoule to shatter.

- 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

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 Other information

For optimum analytical performance, store in the dark and at room temperature.

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/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	n-propanol (n-propyl alcohol)	71-23-8	TLV®	100							ACGIH® 2020
US	n-propyl alcohol	71-23-8	PEL (CA)	200	500	250	625				Cal/OSHA PEL
US	n-propyl alcohol	71-23-8	REL	200 (10 h)	500 (10 h)	250	625				NIOSH REL
US	n-propyl alcohol	71-23-8	PEL	200	500						29 CFR 1910.1000

Notation

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

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)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
propan-1-ol	71-23-8	DNEL	268 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
propan-1-ol	71-23-8	DNEL	1,723 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
propan-1-ol	71-23-8	DNEL	136 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
propan-1-ol	71-23-8	PNEC	6.83 mg/l	aquatic organisms	freshwater	short-term (single instance)
propan-1-ol	71-23-8	PNEC	0.683 mg/l	aquatic organisms	marine water	short-term (single instance)
propan-1-ol	71-23-8	PNEC	96 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
propan-1-ol	71-23-8	PNEC	27.5 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
propan-1-ol	71-23-8	PNEC	2.75 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
propan-1-ol	71-23-8	PNEC	1.49 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

Product description CHEMets Ampoules: Sealed glass ampoules, 7 mm OD, for visual colorimetric water analysis. Each CHEMet™ ampoule contains approximately 0.25 mL of liquid reagent sealed under vacuum. The refills and kits contain 20 CHEMets ampoules.

Appearance

Physical state	liquid
Color	colorless - may contain black particles
Particle	not relevant (liquid)
Odor	characteristic

Other safety parameters

pH (value)	8.5 (in aqueous solution: 20 vol%, 20 °C)
Melting point/freezing point	-127 °C
Initial boiling point and boiling range	97 °C
Flash point	23.5 °C at 1,013 hPa
Evaporation rate	Not determined
Flammability (solid, gas)	not relevant, (fluid)

Explosive limits

- Lower explosion limit (LEL)	2.1 vol%
- Upper explosion limit (UEL)	13.5 vol%
Vapor pressure	not determined
Density	not determined
Vapor density	this information is not available
Relative density	0.8 (water = 1)

Solubility(ies)

- Water solubility	miscible in any proportion
--------------------	----------------------------

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
-----------------------------	-----------------------------------

Auto-ignition temperature	400 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

SECTION 10: Stability and reactivity

10.1 Reactivity

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

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

Hints to prevent fire or explosion

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

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

Shall not be classified as acutely toxic.

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

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

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

Data are not available.

12.6 Endocrine disrupting properties

Information on this property is not available.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

please consider the relevant national or regional provisions

SECTION 14: Transport information

14.1 UN number

DOT UN 1274

IMDG-Code UN 1274

ICAO-TI UN 1274

14.2 UN proper shipping name

UN1274, n-Propanol, 3, III

DOT n-Propanol

IMDG-Code n-PROPANOL

ICAO-TI n-Propanol

14.3 Transport hazard class(es)

DOT 3

IMDG-Code 3

ICAO-TI 3

14.4 Packing group

DOT III

IMDG-Code III

ICAO-TI III

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Other relevant information

Shipping container markings and labels, received from CHEMetrics, may vary from the above information. Products that are regulated for transport will be packaged by CHEMetrics as Dangerous Goods in Excepted Quantities according to IATA, US DOT, and IMDG regulations. CHEMetrics may also elect to ship certain products as UN 3316 Chemical Kit, Hazard Class 9, Packing Group II or III. In case of reshipment, it is the responsibility of the shipper to determine appropriate labels and markings in accordance with applicable transportation regulations.

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

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

Danger label(s)	3
-----------------	---



Special provisions (SP)	B1, IB3, T2, TP1
-------------------------	------------------

ERG No	129
--------	-----

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	-
------------------	---

Danger label(s)	3
-----------------	---



Special provisions (SP)	223
-------------------------	-----

Excepted quantities (EQ)	E1
--------------------------	----

Limited quantities (LQ)	5 L
-------------------------	-----

EmS	F-E, S-D
-----	----------

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

Danger label(s)	3
-----------------	---



Special provisions (SP)	A3
-------------------------	----

Excepted quantities (EQ)	E1
--------------------------	----

Limited quantities (LQ)	10 L
-------------------------	------

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations specific for the product in question****National regulations (United States)**

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

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)
none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
propan-1-ol	71-23-8		F3

Legend

F3 Flammable - Third Degree

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

none of the ingredients are listed

Industry or sector specific available guidance(s)**NPCA-HMIS® III**

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
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	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
AU	AICS	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	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

Legend

AICS	Australian Inventory of Chemical Substances
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

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 chapter 2 and 3)

Code	Text
H226	Flammable liquid and vapor.
H313	May be harmful in contact with skin.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.

Disclaimer

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