

MATERIAL SAFETY DATA SHEET**1. PRODUCT and COMPANY IDENTIFICATION**

PRODUCT NAME	Metal Cleaner CARBO-R NEW		
PRODUCT INFORMATION	Hydrocarbon Detergent (Aerosol Detergent)		
COMPANY NAME	UNICHEMY CO. LTD.		
ADDRESS	〒456-0034 1-11-1 TENMA ATSUTA NAGOYA JAPAN		
CONTACT DEPARTMENT	TECHNICAL DEPARTMENT		
TELEPHONE NUMBER	81-52-682-5069	/	FACSIMILE NUMBER 81-52-681-8646
CONTACT NUMBER IN CASE OF EMERGENCY	81-52-682-5069		

2. HAZARDS IDENTIFICATION

【 Ethanol 】

The Globally Harmonized System Classification**PHYSICAL HAZARDS**

Flammable Liquid	Category 2
Pyrophoric liquids	Out of category
Self-heating substances and mixtures	Out of category
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity(oral)	Out of category
Acute Toxicity(dermal)	Not classified
Acute Toxicity(inhalation)	Out of category
Skin Corrosion/Irritation	Out of category
Serious Eye Damage/Eye Irritation	Category 2A-2B
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Out of category
Reproductive Toxicity	Category 1A
Specific Target Organ Systemic Toxicity (single exposure)	Category 3 (Respiratory tract irritation)
Specific Target Organ/Systemic Toxicity (repeated exposure)	Category 1 (Liver), Category 2 (Nerve)
Aspiration Hazards	Not classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment

Acute Toxicity Out of category

Chronic Toxicity Out of category

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Highly flammable liquid and vapor

Causes serious eye irritation

May cause genetic defect

May damage fertility or the unborn child

May cause respiratory irritation or May cause drowsiness and dizziness

Causes damage to Liver through prolonged or repeated exposure

May cause damage to Nerve through prolonged or repeated exposure

[2-Propanol]

The Globally Harmonized System Classification

PHYSICAL HAZARDS

Flammable Liquid	Category 2
Pyrophoric liquids	Out of category
Self-heating substances and mixtures	Out of category
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity(oral)	Category 5
Acute Toxicity(dermal)	Category 5
Acute Toxicity(inhalation)	Out of category
Skin Corrosion/Irritation	Out of category
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory or Skin Sensitization	Out of category
Germ Cell Mutagenicity	Out of category
Carcinogenicity	Out of category

Reproductive Toxicity	Category 2
Specific Target Organ Systemic Toxicity (single exposure)	Category 3 (Respiratory tract irritation)
Specific Target Organ/Systemic Toxicity (repeated exposure)	Category 2
Aspiration Hazards	Category 2

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment

Acute Toxicity	Out of category
Chronic Toxicity	Out of category

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Highly flammable liquid and vapor

May be harmful if swallowed

May be harmful in contact with skin

Causes serious eye irritation

May damage fertility or the unborn child

May cause respiratory irritation

Causes damage to organs (blood-vessel, liver, spleen) through prolonged or repeated exposure

May be harmful if swallowed and enters airways

[Methanol]

The Globally Harmonized System Classification

PHYSICAL HAZARDS

Flammable Liquid	Category 2
Pyrophoric liquids	Out of category
Self-heating substances and mixtures	Out of category
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity(oral)	Category 5
Acute Toxicity(dermal)	Out of category
Acute Toxicity(inhalation)	Out of category
Skin Corrosion/Irritation	Not classified
Serious Eye Damage/Eye Irritation	Category 2A-2B
Respiratory or Skin Sensitization	Out of category
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive Toxicity	Category 1B
Specific Target Organ Systemic Toxicity (single exposure)	Category 1 (central nervous system, visual organ) Category 3 (Respiratory tract irritation)
Specific Target Organ/Systemic Toxicity (repeated exposure)	Category 1 (central nervous system, visual organ)
Aspiration Hazards	Not classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment	
Acute Toxicity	Out of category
Chronic Toxicity	Out of category

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Highly flammable liquid and vapor

May be harmful if swallowed

Causes serious eye irritation

May damage fertility or the unborn child

May cause respiratory irritation or May cause drowsiness and dizziness

Causes damage to organs(central nervous system, visual organ) through prolonged or repeated exposure

[n-Heptane]

The Globally Harmonized System Classification

PHYSICAL HAZARDS

Flammable Liquid	Category 2
Pyrophoric liquids	Out of category
Self-heating substances and mixtures	Not classified
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity(oral)	Not classified
Acute Toxicity(dermal)	Not classified
Acute Toxicity(inhalation)	Not classified
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A-2B
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Out of category
Reproductive Toxicity	Not classified
Specific Target Organ Systemic Toxicity (single exposure)	Category 3 (Respiratory tract irritation)
Specific Target Organ/Systemic Toxicity (repeated exposure)	Category 2 (Liver)
Aspiration Hazards	Category 1

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment	
Acute Toxicity	Not classified
Chronic Toxicity	Not classified

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Highly flammable liquid and vapor

Causes skin irritation
 Causes serious eye irritation
 May cause respiratory irritation or May cause drowsiness and dizziness
 Causes damage to liver through prolonged or repeated exposure
 May be harmful if swallowed and enters airways

[1-Propanol]

The Globally Harmonized System Classification

PHYSICAL HAZARDS

Flammable Liquid	Category 2 or 3
Pyrophoric liquids	Out of category
Self-heating substances and mixtures	Not classified
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity (oral)	Category 5
Acute Toxicity (dermal)	Category 5
Acute Toxicity (inhalation)	Not classified
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific Target Organ Systemic Toxicity (single exposure)	Category 3 (Respiratory tract irritation)
Specific Target Organ/Systemic Toxicity (repeated exposure)	Not classified
Aspiration Hazards	Category 2

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment	
Acute Toxicity	Out of category
Chronic Toxicity	Out of category

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Highly flammable liquid and vapor

May be harmful if swallowed

May be harmful in contact with skin

Causes skin irritation

Causes serious eye irritation

Suspected of causing cancer

May damage fertility or the unborn child

May cause respiratory irritation

May cause drowsiness and dizziness

May be harmful if swallowed and enters airways

[Butane]

The Globally Harmonized System Classification

PHYSICAL HAZARDS

Flammable Gases	Category 1
oxidized gas	Out of category
High-pressure gas	Liquefaction gas
Corrosive to metals	Out of category

HEALTH HAZARDS

Acute Toxicity(dermal)	Out of category
Skin Corrosion/Irritation	Not classified
Serious Eye Damage/Eye Irritation	Not classified
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive Toxicity	Not classified
Specific Target Organ Systemic Toxicity (single exposure)	Category 3 (narcotic)
Specific Target Organ/Systemic Toxicity (repeated exposure)	

Not classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment

Acute Toxicity

Not classified

Chronic Toxicity

Not classified

Label Elements

Drawing Display or Symbol



Signal Word

Danger

Hazard Communication

Extremely flammable gas

High pressure gas; May explode if heated

May cause drowsiness and dizziness

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition of Product

Chemical name	Ethanol	2-Propanol	Methanol	Heptane	1-Propanol	Butane
Chemical formula	C ₂ H ₅ OH	C ₃ H ₇ OH	CH ₃ OH	C ₇ H ₁₆	C ₃ H ₇ OH	C ₄ H ₁₀
Content (vol%)	10~15	0~3	0.1~0.2	45~55	1~10	20~30
J CHECK No.	(2)-202	(2)-207	(2)-201	(2)-7	(2)-207	(2)-4
CAS No.	64-17-5	67-63-0	67-56-1	142-82-5	71-23-8	106-97-8
Class. of UNIC	class3, 2	class3, 2	class3, 2	class3, 2	class3, 2	class2, 1
UN No.	1170	1219	1230	1206	1274	1075

4. FIRST AID MEASURES

Eye contact : Immediately flush eyes plenty of water for at least 15 minutes. Then get immediate medical attention

Skin contact: Wash exposed skin with soap and running water. If feel pain or itchy, get medical treatment.

Inhalation : If adverse effects occur, remove to uncontaminated area and keep quiet, then get medical attention.

Ingestion : If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate

medical attention.

5. FIRE-FIGHTING MEASURES

- Precautions: ① Immediately take away combustible materials from fire area.
② Cool and protect surrounding area. Use water spray for protect a person.
③ Use appropriate protective device(flame resistant clothes).

Extinguishing Media: Carbon dioxide(CO₂), Foam, Dry powder

Use chemical powder(ABC or BC) type extinguisher.

6. ACCIDENTAL RELEASE MEASURES

- ① Immediately remove or shut off sources of ignition and heated substances.
② Use appropriate protective device(glove, goggle, gas mask) and work at windward.
Transfer residual liquid to another containers.
③ Absorb spill with inert materials (e.g. diatomaceous earth, sand), recovery to evacuated containers and transfer to safety area.
④ Treat waste matter on the related law and regulation.

7. Cautions of handling and storage

Handling : ① Be Careful with Fire. Do not use fire, spark, heated substances at working place.

② Ventilate well at working places.

③ Wear proper equipment not to contact with skin and eye.

Storage : ① Do not leave under sunlight for hours.

② Store in a ventilated dark and cool place.

③ Store on the related law and regulation.

8. Exposure controls/Personal protection

Exposure Control parameters (ACGIH, 2006) :

Ethanol : 1000ppm(TLV=TWA) 2-Propnol : 400ppm(TLV=TWA) Methanol : 200ppm(TLV=TWA)

Heptane : 400ppm(TLV=TWA) 1-Propanol : 200ppm(TLV=TWA) Butane : 1000ppm(TLV=TWA)

Personal Protective equipment:

If necessary, prepare local ventilation.

Use glove, goggle ,gas mask etc.

9. Physical and chemical properties

Appearance : Colorless liquid

Odor : a slight odor

Boiling point : base material: 78.3~82.4°C, injection material(LPG) : -42.1~-0.5°C

Specific gravity : base material: 0.790(15°C) ,

injection material(LPG) : gas density: 1.895~2.538kg/m³

Solubility : base material: soluble in water
injection material (LPG) : slightly soluble in water

10. Stability and reactivity

Flash point : base material: 11.8°C, injection material (LPG) : -104.4~-73.8°C
Fire point : base material: 460°C, injection material (LPG) : 405~550°C
Self-reactivity : No
Explosion limit : base material: upper limit: 19vol%, lower limit: 3.3vol%(estimate)
injection material (LPG) : upper limit:9.5vol%, lower limit: 1.8vol%
Stability : Quickly vaporize

11. TOXICOLGICAL INFORMATION

Skin corrosiveness: Causes skin irritation
Irritation to skin, eyes: Causes serious eye irritation
Acute toxicity : May be harmful if swallowed
Subacute toxicity : No available data
Chronic toxicity : No available data
Mutagenicity : No available data
Reproductive toxicity: May damage fertility or the unborn child
Tertogenesis toxicity: No available data

12. ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

13. DISPOSAL CONSIDERATIONS

Disposal must be in accordance with applicable local laws and regulations.
Residual disposal : Residues are highly flammable liquid and vapor. When dispose waste, purge the vapor in a ventilation space and take care to not ignite the vapor.
Containers : Send the waste containers to authorized waste disposal companies, according to local laws and regulations.

14. TRANSPORTATION INFORMATION

U N Number : 1950 (Flammable Aerosol)
U N Classification : Class 2.1
Specific Safety Program and Term on Transportation
: In case of transportation, ensure prevention of load shifting so as not to fall , drop and damage after confirming no leakage of container.
In case of conveyance dangerous object not less than designated quantity , put up sign in concerned vehicle according to local laws and

regulations. Besides equip applicable fire fighting equipment.

15. REGULATORY INFORMATION

JAPAN INVENTORY (MITI) : Not determined

KOREA INVENTORY (ECL) : Not determined

U. S. INVENTORY (TSCA) : Not determined

E. C. INVENTORY (EINECS/ELINCS) : Not determined

16. OTHER INFORMATION

Prepared by:

UNICHEMY CO.LTD. TECHNICAL DEPARTMENT, TEL 052-682-5069

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