

**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

**HEALTH HAZARDS**

Acute Toxicity(oral) Category 4

Acute Toxicity(dermal) Category 5

Acute Toxicity(inhalation) Category 5

Skin Corrosion/Irritation Not classified

Serious Eye Damage/Eye Irritation Category 2A-2B

Respiratory or Skin Sensitization Not classified

Germ Cell Mutagenicity Category 1B

Carcinogenicity Not classified

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 Not classified

Chronic Toxicity Not classified

## 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

#### HEALTH HAZARDS

Acute Toxicity(oral) Category 5

Acute Toxicity(dermal) Category 5

Acute Toxicity(inhalation) Not classified

Skin Corrosion/Irritation Not classified

Serious Eye Damage/Eye Irritation Category 2A

Respiratory or Skin Sensitization Not classified

Germ Cell Mutagenicity Not classified

Carcinogenicity Not classified

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 Not classified

Chronic Toxicity Not classified

## 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

#### HEALTH HAZARDS

Acute Toxicity (oral) Category 5

Acute Toxicity (dermal) Not classified

Acute Toxicity (inhalation) Not classified

Skin Corrosion/Irritation Not classified

Serious Eye Damage/Eye Irritation Category 2A-2B

Respiratory or Skin Sensitization Not classified

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 Not classified

Chronic Toxicity Not classified

## 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

#### 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 Not classified

Reproductive Toxicity Category 1A

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

#### 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 Not classified

Chronic Toxicity Not classified

## 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

#### HEALTH HAZARDS

Acute Toxicity(dermal) Not classified

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 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 <sub>2</sub> H <sub>5</sub> OH	C <sub>3</sub> H <sub>7</sub> OH	CH <sub>3</sub> OH	C <sub>7</sub> H <sub>16</sub>	C <sub>3</sub> H <sub>7</sub> OH	C <sub>4</sub> H <sub>10</sub>
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(CO<sub>2</sub>), 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/m<sup>3</sup>

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, parge 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

This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all applicable and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation

For the use of any product in a manner that might infringe existing patents. No warranty is made, either express or implied.