SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH), as retained and amended in UK law

Version number: 4.2
Issued: 2024-11-19
Replaces SDS: 2023-11-20

Care cartridge

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

Care cartridge

Article No.

56.01.914; 56.01.908; 56.01.910; 56.02.214

UFI code

V92H-UEY7-SS6E-8TUT

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

Relevant identified uses

RATIONAL Care cartridge for all iHexagon, iCombi Pro cooking systems with iCareSystem AutoDose for commercial use

Not suitable for use in

All other uses are discouraged.

1.3. Details of the supplier of the safety data sheet

Supplier

RATIONAL AG

Address
Siegfried-Meister-Straße 1
86899 Landsberg am Lech
Germany

Telephone
+49 8191 327 387

Email
reinigung@rational-online.com

Fax
+49 8191 327 231

Web site
www.rational-online.com

Importer
RATIONAL UK Ltd.

Address
Titan Court, Unit 4
Laporte Way, Portenway Business Parks
LU 4 8EF Luton, Bedfordshire
United Kingdom

Telephone
+44 1582 48 03 88

1.4. Emergency telephone number

Emergency CONTACT (24-Hour-Hotline): +49 6132 844 63

Available outside office hours
Yes

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification
Acute toxicity, oral, hazard category 4
Skin corrosion, hazard category 1B
Skin sensitisation, hazard category 1
Serious eye damage, hazard category 1
Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

Hazard statements
H302, H314, H317, H318, H335

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word
Danger

Hazard statements

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P501 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

More information

Hazard components for labeling: Maleic acid , Citric acid , adipic acid

2.3. Other hazards

This mixture does not contain any substances that are classified as PBT or vPvB according to Article 57 / Annex XIII of the REACH regulation.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
maleic acid	110-16-7 203-742-5 01-2119488705-25-xxxx 607-095-00-3	50 - 70%	Acute Tox. 4 - oral, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, STOT SE 3 - resp. tract irrit.	H302, H315, H317, H319, H335 - -	Skin Sens. 1; H317: C ≥ 0,1 %;
citric acid	77-92-9 201-069-1 01-2119457026-42-xxxx 607-750-00-3	20 - 30%	Eye Irrit. 2, STOT SE 3 - resp. tract irrit.	H319, H335 - -	-
adipic acid	124-04-9 204-673-3 01-2119457561-38-xxxx 607-144-00-9	10 - 20%	Eye Irrit. 2	H319 - -	-

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Description of first aid measures

First responders: Pay attention to self-protection.

Inhalation

Take the victim into fresh air. If symptoms persist, call a physician.

Skin contact

Wash off with soap and water. In the case of skin irritation or allergic reactions see a physician.

Eye contact

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Consult a physician if necessary.

Information for doctors

For specialist advice physicians should contact the Poisons Information Service.

4.2. Most important symptoms and effects, both acute and delayed

Immediate effects can be expected after long-term exposure.

Inhalation

Not applicable.

Skin contact

Causes severe skin burns.

Eye contact

Causes severe eye burns.

Ingestion

If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Show this safety data sheet to the doctor in attendance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

water spray , dry powder , foam , carbon dioxide (CO2)
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self contained breathing apparatus.

Measures in case of fire

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Avoid direct contact with the material / product.

6.2. Environmental precautions

Not required.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Dispose of as hazardous waste in compliance with local and national regulations.

6.4. Reference to other sections

For information on storage and handling see section 7.
For information on exposure and personal protective equipment, see Section 8.
For information on incompatible materials, see Section 10.
For information on disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Avoid direct contact with the material / product. Wear personal protective equipment.

General hygiene

Wash hands after handling.
When using, do not eat, drink or smoke.
The usual precautionary measures when handling chemicals must be observed.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feeding stuffs. Store in a place accessible by authorized persons only. Keep out of reach of children.

Storage class according to TRGS 510: 8A (Flammable, corrosive hazardous substances)

Suitable container and packaging materials for safe storage: store in original container.

Storage temperature: 10 °C to 40 °C

7.3. Specific end use(s)

PC35: Detergents and cleaning products (including solvent-based products)
See section Care cartridge

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
maleic acid (110-16-7/203-742-5)	DNEL	Chronic (long term) Inhalation	3 mg/m^3	Workers	Systemic
maleic acid (110-16-7/203-742-5)	DNEL	Acute (short term) Inhalation	3 mg/m^3	Workers	Systemic
maleic acid (110-16-7/203-742-5)	DNEL	Chronic (long term) Inhalation	3 mg/m^3	Workers	Local
maleic acid (110-16-7/203-742-5)	DNEL	Acute (short term) Inhalation	3 mg/m^3	Workers	Local
adipic acid (124-04-9/204-673-3)	DNEL	Chronic (long term) Inhalation	74.1 mg/m^3	Workers	Systemic
adipic acid (124-04-9/204-673-3)	DNEL	Chronic (long term) Dermal	21 mg/kg	Workers	Systemic
adipic acid (124-04-9/204-673-3)	DNEL	Chronic (long term) Inhalation	13 mg/m^3	Consumers	Systemic
adipic acid (124-04-9/204-673-3)	DNEL	Chronic (long term) Dermal	7.5 mg/kg	Consumers	Systemic
adipic acid (124-04-9/204-673-3)	DNEL	Chronic (long term) Oral	7.5 mg/kg	Consumers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
maleic acid (110-16-7/203-742-5)	PNEC	Freshwater	100 µg/l
maleic acid (110-16-7/203-742-5)	PNEC	Intermittent releases (freshwater)	428.1 µg/l
maleic acid (110-16-7/203-742-5)	PNEC	Marine water	10 µg/l
maleic acid	PNEC	Sewage Treatment Plant	44.6 mg/l

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
(110-16-7/203-742-5)			
maleic acid (110-16-7/203-742-5)	PNEC	Sediment (freshwater)	334 µg/kg sediment dw
maleic acid (110-16-7/203-742-5)	PNEC	Sediment (marine water)	33.4 µg/kg sediment dw
maleic acid (110-16-7/203-742-5)	PNEC	Soil	0.0415 mg/kg soil dry weight
adipic acid (124-04-9/204-673-3)	PNEC	Freshwater	126 µg/l
adipic acid (124-04-9/204-673-3)	PNEC	Intermittent releases (freshwater)	460 µg/l
adipic acid (124-04-9/204-673-3)	PNEC	Marine water	12.6 µg/l
adipic acid (124-04-9/204-673-3)	PNEC	Sediment (freshwater)	474 µg/kg
adipic acid (124-04-9/204-673-3)	PNEC	Sediment (marine water)	47.4 µg/kg
adipic acid (124-04-9/204-673-3)	PNEC	Soil	0.0208 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Freshwater	0.44 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Marine water	0.044 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Sewage Treatment Plant	1000 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Sediment (freshwater)	34.6 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Sediment (marine water)	3.46 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Soil	33.1 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Not required.

Eye / face protection

Chemical-resistant safety glasses with side protection conforming to EN166.

Hand protection

Chemical-resistant protective gloves (EN 374)
Suitable material: Butyl (butyl rubber) or NBR (nitrile rubber), category III according to EN 374.
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Other skin protection

This type of personal protective equipment is not necessary under normal and foreseeable use of the product.

Respiratory protection

This type of personal protective equipment is not necessary under normal and foreseeable use of the product.

Thermal hazards

Not applicable

Environmental exposure controls

No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

white

Odour

characteristic

Melting point / freezing point

Not determined for the mixture.

Boiling point or initial boiling point and boiling range

Not applicable.

Flammability

Not applicable.

Lower and upper explosion limit
The product / mixture has no explosive properties.

Flash point
No data available

Auto-ignition temperature
Not applicable.

Decomposition temperature
No data available

pH
1.9
Method
1 % aqueous solution

Kinematic viscosity
Not applicable.

Viscosity, dynamic
Not applicable.

Solubility
Water soluble

Water solubility
completely soluble

Partition coefficient n-octanol/water
Not determined for the mixture.

Vapour pressure
Not applicable.

Density and/or relative density
1.42 g/cm^3

Relative density
Not determined for the mixture.

Relative vapour density
Not applicable.

Evaporation Rate
Not applicable.

Explosive properties
The product / mixture has no explosive properties.

Oxidising properties

The product / mixture has no oxidizing properties.

VOC %

< 3 %

Particle characteristics

No data available

9.2. Other information

This product / mixture does not contain any nanomaterials or nanoforms as defined in Regulation (EC) 1907/2006.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at normal conditions

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

Protect from moisture.

10.5. Incompatible materials

Strong bases
Light metals
Oxidizing agent

10.6. Hazardous decomposition products

Formation of dangerous gases possible in the event of fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No data is available on the product itself.
Toxicology data for the components

Acute toxicity

Harmful if swallowed.

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals	Method / Guideline	Remarks
adipic acid 124-04-9 / 204-673-3	LD50	5560 mg/kg	Oral	-	rat	OECD 401	ECHA
adipic acid 124-04-9 / 204-673-3	LC0	>7,7 mg/l	Inhalativ	4h	rat	OECD 403	ECHA
citric acid 77-92-9 / 201-069-1	LD50	>2.000 mg/kg	Dermal	-	rat	OECD 402	ECHA
maleic acid 110-16-7 / 203-742-5	LD50	1.560 mg/kg bw	Dermal	-	rabbit	-	-
maleic acid 110-16-7 / 203-742-5	LD50	708 mg/kg bw	Oral	-	rat	-	-
maleic acid 110-16-7 / 203-742-5	LC50	> 0,72 mg/l	Inhalative	1 h	rat	-	-
citric acid 77-92-9 / 201-069-1	LD50	5.400 mg/kg	Oral	-	mouse	OECD 401	ECHA

Skin corrosion/irritation

Causes severe skin burns.

Serious eye damage/irritation

Causes severe eye burns.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Based on the available data, the classification criteria are not met.

Carcinogenicity

Based on the available data, the classification criteria are not met.

Reproductive toxicity

Based on the available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

Based on the available data, the classification criteria are not met.

Aspiration hazard

Based on the available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties

The mixture / product does not contain any ingredients with endocrine disrupting properties in terms of regulations (EC) 1907/2006 and (EU) 2018/605 and the delegated regulation (EU) 2017/2100.

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
maleic acid 110-16-7 / 203-742-5	LC50	75 mg/l	96 h	-	EPA-660/3-75-009	-
adipic acid 124-04-9 / 204-673-3	LC0	>1.000 mg/l	96h	Danio rerio	-	ECHA
citric acid 77-92-9 / 201-069-1	LC50	440 mg/l	48 h	Leuciscus idus	OECD 203	ECHA

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
maleic acid 110-16-7 / 203-742-5	EC50	74,35 mg/l	72 h	-	OECD 201	-

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
adipic acid 124-04-9 / 204-673-3	ErC50	59 mg/l	72h	Pseudokirchneriella subcapitata	OECD 201	ECHA

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
maleic acid 110-16-7 / 203-742-5	EC50	42,81 mg/l	48 h	Daphnia magna	OECD 202	-
adipic acid 124-04-9 / 204-673-3	LC50	46 mg/l	48h	Daphnia magna	OECD 202	ECHA
citric acid 77-92-9 / 201-069-1	LC50	1.535 mg/l	24 h	Daphnia magna	-	ECHA

Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
adipic acid 124-04-9 / 204-673-3	NOEC	6,3 mg/l	21 d	Daphnia magna	OECD 211	ECHA

12.2. Persistence and degradability

The surfactants contained in this mixture / product meet the requirements for biodegradability in accordance with Regulation (EC) No. 648/2004 on detergents.

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Method / Guideline
maleic acid	Biodegradability	28 d	92 %	OECD 301 D

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Method / Guideline
110-16-7 / 203-742-5				

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

Mobility

No information available.

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are classified as PBT or vPvB according to Article 57 / Annex XIII of the REACH regulation.

12.6. Endocrine disrupting properties

The mixture / product does not contain any ingredients with endocrine disrupting properties in terms of regulations (EC) 1907/2006 and (EU) 2018/605 and the delegated regulation (EU) 2017/2100.

12.7. Other adverse effects

This product / mixture does not contain any substances within the meaning of Regulation (EC) No. 1005/2009 that deplete the ozone layer.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of as hazardous waste in compliance with local and national regulations.

Packaging

Empty containers should be taken for local recycling, recovery or waste disposal.
Contaminated packaging / sheets : Dispose of as unused product.

Waste code	Waste description
20 01 29*	detergents containing hazardous substances

Please note - an asterisk (*) next to a code denotes that it is HAZARDOUS WASTE.

SECTION 14: Transport information

14.1. UN number

3261

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

3261 - CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Maleic acid , Citric acid , adipic acid)

IMDG proper shipping name

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (MALEIC ACID, CITRIC ACID, ADIPIC ACID)

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



8

ADR / RID Class

8

ADR / RID Classification code

C4

ADR / RID hazard identification number

80

IMDG Class

8

IATA Class

8

ADN Class

8

ADN Class Code

C4

14.4. Packing group

II

14.5. Environmental hazards

Environmental hazards

No

IMDG Marine Pollutant

No

14.6. Special precautions for user

IMDG EmS

F-A,S-B

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

Other

Additional information ADR-RID

LQ: 1 kg

EQ: E1

Transport category (tunnel restriction code): 2 (E)

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 648/2004 (detergents)
Ingredients according to Annex VII: <5% polycarboxylates , non-ionic surfactants,

Regulation (EC) No. 1272/2008 (CLP)

Regulation (EC) No. 1907/2006 (REACH)
Substances subject to authorization according to Annex XIV: not applicable
Substance restrictions according to Annex XVII: not applicable
Substances on the REACH candidate list (SVHC): not applicable

Regulation (EU) No. 528/2012 (BPR)
Active ingredients: not applicable

Regulation (EU) 2019/1148 (explosives)
Restricted raw material according to Annex I: not applicable
Notifiable raw materials according to Annex II: not applicable

Directive 2011/65 / EU (ROHS 2)
Substance restrictions according to Annex II: not applicable

Regulation (EU) 2019/1021 (POP)
Persistent organic pollutants: not applicable

Directive 2012/18/EU (Seveso III)
Seveso hazard category: not applicable

National regulations

In addition, comply with all national and local regulations for the handling of chemicals.
UK REACH : REACH Regulations (S.I. 2019/758) as amended
UK CLP : Classification, Labelling and Packaging of Chemicals Regulations (S.I. 2015/21) as amended
UK COMAH : Control of Major Accident Hazards Regulations (S.I. 2015/483) as amended
Management of Health and Safety at Work Regulations (S.I. 1999/3242) as amended (requirements relating to the protection of young people and new and expectant mothers at work)

15.2. Chemical safety assessment

The mixture has not been subjected to a safety assessment.

SECTION 16: Other information

Changes to previous revision

Addition SECTION 1.2 : iHexagon
Addition SECTION 1.3 : UK Importer

Abbreviations

ADN - European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS - Chemical Abstract Service
CLP - Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL - Derived Minimum Effect Level
DNEL - Derived No Effect Level
EC50 - Half maximal effective concentration 50%
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
LC50 - Lethal concentration 50%
LD50 - Lethal dosis 50 %
MARPOL - International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("Marpol" - marine pollution)
PBT - Persistent, bioaccumulative and toxic substance
PEC - Predicted Environmental Concentration
PNEC - Predicted No Effect Concentration
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals
RID - The regulations concerning the International Carriage of Dangerous Goods by Rail
SVHC - Substance of Very High Concern
vPvB - Very persistent, very bioaccumulative substance

References to key literature and data sources

REACH registration dossiers
ECHA C&L - Inventory
Safety data sheets from raw material suppliers

Evaluation methods for classification

Classification for mixtures and used evaluation method according to Article 9 of regulation (EC) 1272/2008 [CLP]:
Health hazards: calculation method

Phrase meaning

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Corr. 1B - Skin corrosion, hazard category 1B
Skin Sens. 1 - Skin sensitisation, hazard category 1
Eye Dam. 1 - Serious eye damage, hazard category 1
STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Skin Irrit. 2 - Skin irritation, hazard category 2
Eye Irrit. 2 - Eye irritation, hazard category 2
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Additional information

This safety data sheet is prepared in accordance with Commission Regulation (EU) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878.

Manufacturer's notes

Legal disclaimer: The above information is believed to be correct. This company shall not be held liable for any damage resulting from handling or from contact with the above product.