

SECTION 1: Identification

1.1. Product identifier

Name : Care tabs

1.2. Other means of identification

Further information : Article number: 56.00.562

1.3. Recommended use of the chemical and restrictions on use

Recommended use : RATIONAL care tabs for all iHexagon, iCombi Pro, iCombi Classic and SelfCookingCenter® models with Efficient CareControl for commercial use,
Care product,
Restricted to professional users

1.4. Details of the supplier of the safety data sheet

Manufacturer

RATIONAL AG

Siegfried-Meister-Straße 1 Landsberg am Lech 86899 Germany

T +49 8191 327 387 - F +49 8191 327 231

reinigung@rational-online.com - www.rational-online.com

E-mail address of competent person responsible for the SDS: sds@gbk-ingelheim.de

1.5. Emergency telephone number

Emergency number : Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin corrosion/irritation Category 1B	H314
Serious eye damage/eye irritation Category 1	H318
Specific target organ toxicity (single exposure) Category 3	H335

2.2. Label elements

Hazard pictograms (GHS PH) :



Signal word (GHS PH) :

Danger

Contains :

DL-malic acid; Citric acid; adipic acid

Hazard statements (GHS PH) :

H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS PH) :

P101 - If medical advice is needed, have product container or label at hand.
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
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 affected areas with water .
P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER, a doctor
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
DL-malic acid	CAS-No.: 617-48-1	20 - 50	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Citric acid	CAS-No.: 77-92-9	20 - 50	Eye Irrit. 2, H319 STOT SE 3, H335
adipic acid	CAS-No.: 124-04-9	5 - 15	Eye Irrit. 2, H319

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Adhere to personal protective measures when giving first aid.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Ingestion may cause nausea, vomiting and diarrhea. Burns.

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

Treatment	: If possible, show the doctor this safety data sheet. Failing this, show the doctor the packaging or label.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
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5.3. Advice for firefighters

Firefighting instructions	: Do not allow run-off from fire fighting to enter drains or water courses. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe dust. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Storage temperature : 10 – 40 °C

Information on mixed storage : Keep away from food, drink and animal feeding stuffs.

Special rules on packaging : Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

8.4. Personal protective equipment

Hand protection:

Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Chemically resistant protective gloves					EN ISO 374

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

Eye protection:

tightly fitting safety goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Not required for normal conditions of use

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: tablet.
Color	: white
Odor	: characteristic
Odor threshold	: No data available
pH	: 2.5 pH solution concentration: 1 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: Not applicable
Density	: 820 – 900 kg/m ³
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

VOC content : < 3 %

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: Protect from atmospheric moisture and water
Incompatible materials	: Strong bases, Light metals, Oxidizing agent
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

SECTION 11: Toxicological information

11.1. Acute toxicity

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

DL-malic acid (617-48-1)	
LC50 Inhalation - Rat	> 1.306 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))

Citric acid (77-92-9)	
LD50 oral	5400 mg/kg body weight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:, 95% CL: 4500 - 6400
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

adipic acid (124-04-9)	
LD50 oral rat	5560 mg/kg
LC50 Inhalation - Rat	> 7.7 mg/l (4 h, (OECD 403 method))

Skin corrosion/irritation : Causes severe skin burns.
pH: 2.5
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – single exposure : May cause respiratory irritation.
Specific target organ toxicity – repeated exposure : Not classified (Based on available data, the classification criteria are not met)

DL-malic acid (617-48-1)	
NOAEL (oral,rat,90 days)	≈ 600 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)

Citric acid (77-92-9)	
LOAEL (oral,rat,90 days)	8000 mg/kg body weight Animal: rat
NOAEL (oral,rat,90 days)	4000 mg/kg body weight Animal: rat

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

DL-malic acid (617-48-1)	
LC50 fish 1	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

Citric acid (77-92-9)	
LC50 fish 1	440 mg/l (48 h, Leuciscus idus (golden orfe), (OECD 203 method)
EC50 Daphnia 1	1535 mg/l (24 h)

adipic acid (124-04-9)	
EC50 Daphnia 1	46 mg/l 48 h, (OECD 202 method)
ErC50 algae	59 mg/l Pseudokirchneriella subcapitata, (OECD 201 method)
NOEC chronic crustacea	6.3 mg/l 48 h, (OECD 211 method)
LC0, Danio rerio	> 1000 mg/l (96 h, ECHA)

12.2. Persistence and degradability

Care Tab	
Persistence and degradability	Readily biodegradable,(OECD 301B method)

12.3. Bioaccumulative potential

Care Tab	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

Care Tab	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified (Based on available data, the classification criteria are not met)
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation. Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
3261	3261	3261
14.2. Proper Shipping Name		
CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (citric acid ; DL-malic acid ; adipic acid)	Corrosive solid, acidic, organic, n.o.s. (citric acid ; DL-malic acid ; adipic acid)	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Citric acid ; DL-malic acid ; adipic acid)
14.3. Transport hazard class(es)		
8	8	8

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

IMDG	IATA	UNRTDG
		
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

UN RTDG

UN-No.(UN RTDG)	: 3261
Special provision (UN RTDG)	: 274
Limited quantities (UN RTDG)	: 1 kg
Excepted quantities (UN RTDG)	: E2
Packing instruction (UN RTDG)	: P002, IBC08
Special packing provisions (UN RTDG)	: B2, B4
Portable tank and bulk container special instructions (UN RTDG)	: T3
Portable tank and bulk container special provisions (UN RTDG)	: TP33

IMDG

UN-No. (IMDG)	: 3261
Special provision (IMDG)	: 274
Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B21, B4
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
Stowage category (IMDG)	: B
Segregation (IMDG)	: SGG1, SG36, SG49

IATA

UN-No. (IATA)	: 3261
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y844
PCA limited quantity max net quantity (IATA)	: 5kg
PCA packing instructions (IATA)	: 859
PCA max net quantity (IATA)	: 15kg
CAO packing instructions (IATA)	: 863
CAO max net quantity (IATA)	: 50kg
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

SECTION 15: Regulatory information

15.1. National regulations

No additional information available

15.2. International regulations

No additional information available

SECTION 16: Other information

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Other information : Data of sections 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge. The delivery specifications are contained in the corresponding product sheet. This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit

Care tabs

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
SDS No: 00625-0086

Abbreviations and acronyms:	
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor
DOT	Department of Transport
TDG	Transportation of Dangerous Goods
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
GHS	Globally Harmonized System of Classification, Labelling and Packaging of Chemicals
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
MARPOL 73/78	MARPOL 73/78: International Convention for the Prevention of Pollution From Ships
ADG	Transport of Australian Dangerous Goods

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should therefore not be construed as guaranteeing any specific property of the product.