

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

**1.1. Product identifier**

Product form : Mixture  
Product name : Rango  
Product code : CA 017 C1275  
Type of formulation : Emulsifiable concentrate (EC)  
Active Ingredient : Quizalofop-p-tefuryl

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

**1.2.1. Relevant identified uses**

Main use category : Plant protection product for professional use. Agriculture.  
Use of the substance/mixture : Herbicide.

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet**

Supplier:

Chemtura Manufacturing UK Limited  
Tenax Road, Trafford Park  
Manchester  
United Kingdom  
M17 1WT

Distributor:

CERTIS UK  
Suite 5, 3 Riverside  
Granta Park  
Great Abington  
Cambridgeshire CB21 6AD  
United Kingdom  
Tel: +44 (0)845 373 0305  
Fax: +44 (0)1223 891210  
Email: [certis@certiseurope.co.uk](mailto:certis@certiseurope.co.uk)  
Website: [www.certiseurope.co.uk](http://www.certiseurope.co.uk)

**1.4. Emergency telephone number**

Emergency number : Certis Carechem24 multilingual 24 hours emergency number: +44 (0) 870 190 6777.  
For advice on medical emergencies, fires, spillages or chemical hazards only –phone: 0870 190 6777.  
For further advice for medical professionals - The National Poisons Information Service: Tel: 0870 600 6266 (UK only) or Dublin Tel: 0035 3 137 99 64/379966.  
For further advice for veterinary surgeons: 020 7635 9195.

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Eye Dam. 1 H318

Skin Sens. 1 H317  
Muta. 2 H341  
Repr. 1A H360Df  
Asp. Tox. 1 H304  
Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Contains : Quizalofop-P-Tefuryl; Alcohols, C12-16, ethoxylated

Signal word (CLP) : Danger

Hazard statements (CLP) : H304 - May be fatal if swallowed and enters airways.  
H317 - May cause an allergic skin reaction.  
H318 - Causes serious eye damage.  
H341 - Suspected of causing genetic defects.  
H360Df - May damage the unborn child. Suspected of damaging fertility.  
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P331 - Do NOT induce vomiting.  
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.  
P308 + P313 - IF exposed or concerned: Get medical advice/attention.  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

EUH phrases : EUH401 - To avoid risks to human health and the environment, comply with the instructions for use.

## 2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent and very bioaccumulative (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
White mineral oil (petroleum)	(CAS No) 8042-47-5 (EC no) 232-455-8	30 - 50	Asp. Tox. 1, H304
Alcohols, C12-16, ethoxylated	(CAS No) 68551-12-2 (EC no) 500-221-7	10 - 20	Eye Dam. 1, H318
Tristyrylphenol ethoxylates	(CAS No) 99734-09-5	1 - 10	Aquatic Chronic 3, H412
calcium dodecylbenzenesulphonate	(CAS No) 26264-06-2	1 - 5	Skin Irrit. 2, H315 Eye Dam. 1, H318
2-Ethylhexan-1-ol	(CAS No) 104-76-7 (EC no) 203-234-3 (EC index no) - (REACH-no) 01-21194872889-20	1 - 10	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Quizalofop-P-Tefuryl	(CAS No) 119738-06-6	4.71	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Muta. 2, H341 Repr. 1A, H360Df STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of R-, H- and EUH-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : In the event of any complaints or symptoms, avoid further exposure.
- First-aid measures after inhalation : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.  
If symptoms persist, call a physician.
- First-aid measures after skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- First-aid measures after eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- First-aid measures after ingestion : Clean mouth with water and drink afterwards plenty of water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

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

- Symptoms/injuries : Symptoms may be delayed.  
Irritant effects. Allergic reaction.

Risks : May be fatal if swallowed and enters airways.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Suspected of causing genetic defects.  
May damage the unborn child. Suspected of damaging fertility.

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

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray  
Dry chemical powder  
Alcohol resistant foam  
Carbon dioxide (CO<sub>2</sub>).

Unsuitable extinguishing media : Water spray jet.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustion or thermal decomposition may generate toxic vapours: chlorine compounds, nitrogen oxides, carbon monoxide, hydrocarbons.

#### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.  
Fight fire from safe distance and protected location.  
Do not breathe fumes  
Cool closed containers exposed to fire with water spray  
If possible, take the containers out of dangerous zone.  
Contain fire-fighting water with dikes or absorbents to prevent migration and entry into sewers, streams or groundwater.

Protection during firefighting : Wear suitable protective clothing, gloves, eye/face protection and respiratory protection  
Wear a self-contained breathing apparatus.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment : Wear suitable protective clothing, gloves and eye/ face protection.

Emergency procedures : Evacuate area.  
Ensure adequate ventilation.  
Avoid direct contact with the substance.  
Contain any spills with dikes or absorbents to prevent migration and entry into sewers, streams or groundwater.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters.  
Notify the authorities if product enters sewers or public waters.

**6.3. Methods and material for containment and cleaning up**

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.

Once absorbed collect spilled material with shovels, buckets and place in closed containers and label properly.

Remove as chemical waste, according to national or local legislation.

In the event of major spillage: contact an expert.

**6.4. Reference to other sections**

See sections 7-8-13.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling : Read label before use.

Avoid contact with eyes, skin, nose and mouth.

Wear suitable protective clothing, gloves and eye/face protection.

Opened containers must be carefully closed and kept upright to avoid leakage.

Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace.

Contaminated work clothing should not be allowed out of the workplace.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities**

Technical measures : Provide adequate ventilation.

Storage conditions : Prevent unauthorised access.

Keep locked up and out of the reach of children.

Store locked up.

Keep in original containers, tightly closed and keep upright.

Keep away from food, drink and animal feedingstuffs.

Protect against frost.

Keep away from heat and direct sunlight.

**7.3. Specific end use(s)**

Herbicide for agricultural use. Refer to the label.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

No occupational exposure limit value is known. See section 3 "Information on ingredients".

**8.2. Exposure controls**

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Protective clothing. Protective goggles. Gloves. Dust/aerosol mask.



Hand protection	: Wear impervious gloves resistant to chemical. Nitrile rubber. Polyvinyl alcohol or nitrile- butyl-rubber gloves The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Eye protection	: Safety goggles or a face shield.
Skin and body protection	: Protective clothing with long sleeves waterproof and resistant to chemicals. Rubber boots.
Respiratory protection	: Wear appropriate respirator for dust / organic vapors.
Hygiene measures	: Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke while handling the product. Clean gloves with soap and water before removing. Wash hands and face with soap and water before eating, drinking smoking and immediately after handling product. Clean equipment, premises and work clothes regularly. Work clothing should remain on the work area and stored separately from street clothes.
Environmental exposure controls	: Discharge into the environment must be avoided. Do not contaminate surface and groundwater.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Odour	: Aromatic.
Odour threshold	: No data available
pH at 23.5 °C	: 5,8 (1%)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 85 - 89 °C
Self ignition temperature	: 385 - 395 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density at 20 °C	: 0,915
Density	: 0,905 g/cm <sup>3</sup>
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 6,8 mm <sup>2</sup> /s (40 °C)
Viscosity, dynamic	: 9 mPa.s (20 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

Surface tension at 20 °C	: 29,2 mN/m (1%)
Surface tension at 25 °C	: 28,2 mN/m (1%)

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is stable at normal handling and storage conditions.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

Is not explosive and does not exhibit oxidant properties.

### 10.4. Conditions to avoid

Extreme temperature and direct sunlight.

### 10.5. Incompatible materials

Strong acids and strong basis.

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Combustion or thermal decomposition may generate toxic vapours: chlorine compounds, nitrogen oxides, carbon monoxide, hydrocarbons.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>Quizalofop-P-Tefuryl (119738-06-6)</b>	
LD50 oral rat	1012 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat	> 3,9 mg/l/4h

<b>calcium dodecylbenzenesulphonate (26264-06-2)</b>	
LD50 dermal rabbit	> 4,199 mg/kg

<b>2-Ethylhexan-1-ol (104-76-7)</b>	
LD50 oral rat	1516 – 2774 mg/kg
LD50 dermal rabbit	>1980 mg/kg
LD50 dermal rat	>3000 mg/kg
LD50 intraperitoneal rat	>568 mg/kg
LC50 inhalation rat	>227 ppm (6h)

**Skin irritation** : May cause skin irritation in susceptible persons.

Quizalofop-P-Tefuryl

Species: rabbit

Result: No skin irritation

Classification: No skin irritation

Method: OECD Test Guideline 404

Exposure time: 4 h

calcium dodecylbenzenesulphonate

Species: Rabbit

Exposure time: 4 h

Result: Skin irritation

Remarks: Information given is based on data obtained from similar substances.

2-ethylhexan-1-ol

Species: Rabbit

Result: Skin irritation

**Eye damage/eye irritation**

- : May cause irreversible eye damage.  
Alcohols, C12-16, ethoxylated:  
Species: Rabbit  
Result: Risk of serious damage to eyes.
- Quizalofop-P-Tefuryl:  
Species: Rabbit  
Assessment: No eye irritation  
Result: No eye irritation  
GLP: yes
- calcium dodecylbenzenesulphonate  
Species: Rabbit  
Result: Risk of serious damage to eyes.  
Remarks: Information given is based on data obtained from similar substances.
- 2-ethylhexan-1-ol  
Species: Rabbit  
Result: Eye irritation

**Corrosivity**

- : Not classified

**Sensitisation**

- : Causes sensitisation.  
Quizalofop-P-Tefuryl  
Buehler Test  
Species: guinea pig  
Result: Did not cause sensitization on laboratory animals.  
Method: OECD Test Guideline 406
- Species: guinea pig  
Result: May cause sensitisation by skin contact.  
Method: OECD Test Guideline 406
- 2-ethylhexan-1-ol  
Test Type: Patch Test  
Species: Human  
Assessment: Did not cause sensitisation on laboratory animals.  
Method: Maximisation Test (GPMT)

**Carcinogenicity**

- : Not classified  
Quizalofop-P-Tefuryl  
Species: rat  
Dose: 0, 25, 750 and 1250 ppm  
NOAEL: 1.3 mg/kg bw/day  
LOAEL: 39.5 mg/kg body weight
- Species: Mouse  
Dose: 0, 10, 60, 125 and 250 ppm  
NOAEL: 1.7 mg/kg bw/day  
LOAEL: 10.2 mg/kg body weight



<b>Mutagenicity</b>	: Suspected of causing genetic defects. <u>Quizalofop-P-Tefuryl</u> <i>Salmonella typhimurium</i> Result: negative Method: OECD Test Guideline 471 GLP: Yes.  <u>2-ethylhexan-1-ol</u> <b>Genotoxicity in vitro</b> Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative GLP: yes  Test Type: In Vitro mammalian Cell Gene Mutation Test Metabolic activation: with and without metabolic activation Result: positive  Test Type: Chinese Hamster Ovary (CHO) Metabolic activation: with and without metabolic activation Result: negative GLP: yes  Test Type: Unscheduled DNA synthesis (UDS) Metabolic activation: with and without metabolic activation Result: negative GLP: yes  <b>Genotoxicity in vivo</b> Test Type: In vivo micronucleus test Species: Mouse (male and female) Cell type: Bone marrow Result: negative GLP: yes
<b>Toxicity for reproduction</b>	: <b>Effect on fertility:</b> <u>Quizalofop-P-Tefuryl</u> Species: Rat Dose: 0, 25, 625 and 1250 ppm General Toxicity - Parent: No observed adverse effect level: 2 - 4 mg/kg bw/day
<b>STOT – repeated exposure</b>	: <u>2-ethylhexan-1-ol</u> Exposure routes: Oral, Inhalation Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**SECTION 12: Ecological information**

**12.1. Toxicity**

<b>Quizalofop-P-Tefuryl (119738-06-6)</b>	
LC50 fishes ( <i>Oncorhynchus mykiss</i> )	0.51 mg/l (96h)
EC50 Daphnia ( <i>Daphnia magna</i> )	>1.5 mg/l (48h)
ErC50 (algae) ( <i>Selenastrum capricornutum</i> )	>1.9 mg/l (120 h)

M factor (Acute aquatic toxicity) = 1

Similar substance to calcium dodecylbenzenesulphonate (26264-06-2)	
LC50 fish ( <i>Pimephales promelas</i> )	22 mg/l (96h)
EC50 Daphnia ( <i>Daphnia magna</i> )	2,5 mg/l (48h)

2-Ethylhexan-1-ol (104-76-7)	
LC50 fishes ( <i>Oncorhynchus mykiss</i> )	>7,5 mg/l (96h)
LC50 fish ( <i>Pimephales promelas</i> )	27 – 29,5 mg/l (96h)
EC50 Daphnia ( <i>Daphnia magna</i> )	39 mg/l (48h)
EC50 Green algae ( <i>Scenedesmus subspicatus</i> )	11,5 – 13,3 mg/l (72h)

**12.2. Persistence and degradability**

Similar substance to calcium dodecylbenzenesulphonate (26264-06-2)	
Biodegradability	Readily biodegradable (10mg/l; 28 d: 73 %)

2-Ethylhexan-1-ol (104-76-7)	
Biodegradability	Test Type: aerobic Inoculum: activated sludge Concentration: 3.16 mg/l Biodegradation: 55 % Exposure time: 17 d Test Type: aerobic Inoculum: activated sludge Concentration: 249 mg/l Biodegradation: 97 % Exposure time: 7 d Kinetic: 1 d: 23 % 2 d: 36 % 5 d: 96 % 7 d: 97 %

**12.3. Bioaccumulative potential**

Quizalofop-P-Tefuryl (119738-06-6)	
log Pow	4,32

calcium dodecylbenzenesulphonate (26264-06-2)	
Bioaccumulation ( <i>Lepomis macrochirus</i> )	BCF: 104 (21days)

2-Ethylhexan-1-ol (104-76-7)	
log Pow	3,1

**12.4. Mobility in soil**

No additional information available

**12.5. Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6. Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Regional legislation (waste) : According to national or local legislation.

**SECTION 14: Transport information**

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

**14.1. UN number**

UN-No. : 3082  
 UN-No.(IATA) : 3082

**14.2. UN proper shipping name**

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.( Quizalofop-p-tefuryl)  
 Transport document description : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.( Quizalofop-p-tefuryl), 9, III, (E)

**14.3. Transport hazard class(es)**

Class (UN) : 9  
 Class (IATA) : 9 - Miscellaneous dangerous goods.  
 Hazard labels (UN) : 9



**14.4. Packing group**

**14.4.1. ADR**

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9  
 Tunnel restriction code : (E)

**14.4.2. RID**

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

**14.4.3. IMDG**

Packing group : III  
 Labels : 9  
 EmS Code : F-A, S-F

**14.4.4. IATA**

Packing group (cargo aircraft) : 964  
 Packing instruction (passenger aircraft) : 964  
 Packing instruction (LQ) : Y964  
 Packing group : III  
 Labels : Miscellaneous

**14.5. Environmental hazards**

Environmental hazards : No

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

Not applicable

## SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2	ENVIRONMENTAL HAZARDS	Quantity 1 200t	Quantity 2 500t
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### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Change date	Previous Version	Section	Changed Item	Change	Comments
19/03/2014	1.0	2.2	S60, S61	Removed	
			S35	Added	
24/03/2014	1.1	2	Sensibilisation (R43) container (S57)	Modified	
20/06/2014	2		General update		According to CHEMTURA SDS (28.05.2014)
26/06/2014	2.1	2.1	R41, R50/53	Removed	According to CHEMTURA SDS (28.05.2014)
			R61, R65, R68, R51/53, R38,R67	Added	According to CHEMTURA SDS (28.05.2014)
		2.2	Labelling according to Directive 67/548/EEC or 1999/45/EC	Removed	According to CHEMTURA SDS (28.05.2014)
30/06/2015	2.4		General update		According to CHEMTURA SDS (18.05.2015)
09/07/2015	2.5	2	Labelling according to CLP: P311 changed to P310 P310 added to P305 P333 + P313 added	Modified	According to CHEMTURA approved label text
		14	Packaging group	Adapted	According to CHEMTURA SDS (18.05.2015)
13/07/2015	2.7	15	Regulatory information	Updated	According to CHEMTURA SDS (18.05.2015)

Full text of H- and EUH-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2

STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H360Df	May damage the unborn child. Suspected of damaging fertility
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

*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 not therefore be construed as guaranteeing any specific property of the product.*