SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name METRONOME PRIME EC152,3 12X1L BOT CO

Product code (UVP) 84122289

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

Use Insecticide, Acaricide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer AG
Kaiser-Wilhelm-Allee 1
51373 Leverkusen
Germany

Telefax +49(0)2173-38-7394

Responsible Department Chemical Regulatory Affairs
+49(0)2173-38-3409 (during business hours only)
Email: BCS-SDS@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. Global Incident Response Hotline (24h)
+1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Flammable liquids: Category 3
H226 Flammable liquid and vapour.

Aspiration hazard: Category 1
H304 May be fatal if swallowed and enters airways.

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

Specific target organ toxicity - single exposure: Category 3
H335 May cause respiratory irritation.

Chronic aquatic toxicity: Category 2
H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and

packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- p-Mentha-1,3-diene
- p-Cymene
- (R)-p-mentha-1,8-diene; d-limonene
- Butyl (S)-2-hydroxypropionate

Signal word: Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
P391	Collect spillage.
P501	Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No additional hazards known beside those mentioned.

p-Mentha-1,3-diene: No data available P-Cymene: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). (R)-p-mentha-1,8-diene: No data available

Ecological information:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Emulsifiable concentrate (EC)
152,3 g/l Terpenoid Blend (p-Mentha-1,3-dien, p-cymene, d-limonene) QRD 460 - inertised with nitrogen

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification REGULATION (EC) No 1272/2008	Conc. [%]
p-Mentha-1,3-diene	99-86-5 202-795-1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	9,68
p-cymene	99-87-6 202-796-7	Flam. Liq. 3, H226 Acute Tox. 3, H331 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	3,62
(R)-p-mentha-1,8-diene; d-limonene	5989-27-5 227-813-5	Aquatic Chronic 3, H412 Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400	2,9
2,6-Di-tert-butyl-4-methylphenol	128-37-0 204-881-4 01-2119555270-46-xxxx 01-2119565113-46-XXXX 01-2119480433-40-XXXX	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	>= 0,1 – <= 0,25
Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy-, mono(C16 and C18-unsatd. alkyl) ethers, phosphates	91254-26-1	Skin Corr. 1B, H314 Eye Dam. 1, H318	>= 3 – <= 10
Butyl (S)-2-hydroxypropionate	34451-19-9 252-036-3 01-2120767264-50-XXXX	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335	> 20
Rape oil	8002-13-9 232-299-0	Not classified	<= 50

Further information

p-Mentha-1,3-diene	99-86-5	Oral: ATE = 1.680 mg/kg
p-Mentha-1,3-diene	99-86-5	Oral: ATE = 1.680 mg/kg
p-cymene	99-87-6	Inhalation: ATE = 3 mg/l (vapour)
p-cymene	99-87-6	Inhalation: ATE = 3 mg/l (vapour)
(R)-p-mentha-1,8-diene; d-limonene	5989-27-5	M-Factor: 1 (acute)

For the full text of the H-Statements mentioned in this Section, see Section 16.

Particle characteristics

This substance/ mixture does not contain nanoforms

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. Place and transport victim in stable position (lying sideways).

Inhalation
Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact
Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion
Do NOT induce vomiting. Call a physician or poison control center immediately. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Risk of product entering the lungs on vomiting after ingestion. To prevent aspiration of swallowed product, lay in stable position on one side.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms
If large amounts are ingested, the following symptoms may occur:

Headache, Nausea, Dizziness, Somnolence

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Aspiration may cause pulmonary oedema and pneumonitis.

Inhalation may provoke the following symptoms:

Cough, Shortness of breath, Cyanosis, Fever

Symptoms and hazards refer to the solvent.

4.3 Indication of any immediate medical attention and special treatment needed

Risks
Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

Treatment
Initial treatment: symptomatic. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Carbon dioxide (CO2), Carbon monoxide (CO), Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid)

5.3 Advice for firefighters

Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
Further information	Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions	Remove all sources of ignition. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Ensure adequate ventilation.

6.2 Environmental precautions	Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling	Use only in area provided with appropriate exhaust ventilation.
Advice on protection against fire and explosion	Take measures to prevent the build up of electrostatic charge. Keep away from heat and sources of ignition.
Hygiene measures	Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be

destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from frost.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
7.3 Specific end use(s)	Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
2,6-Di-tert-butyl-4-methylphenol	128-37-0	2 mg/m3 (TLV)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection
Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0,4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

Eye protection
Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection
Wear standard coveralls and Category 3 Type 6 suit.
If there is a risk of significant exposure, consider a higher protective type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid, clear
Colour	light yellow to light brown
Odour	characteristic
Odour Threshold	No data available
Melting point/range	No data available
Boiling Point	No data available
Flammability	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Flash point	58 °C
Auto-ignition temperature	280 °C
Thermal decomposition	130 °C Heating rate:3 K/min Decomposition energy:45 kJ/kg,Exothermic decomposition.
Self-accelarating decomposition temperature (SADT)	No data available
pH	3,0 - 4,0 (1 %) (23 °C) (deionized water)
Viscosity, dynamic	No data available
Viscosity, kinematic	10,0 mm²/s (40 °C) Shear rate of 20/sec
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	P-Cymene: log Pow: 4,46 (20 °C)
Surface tension	28 mN/m (25 °C)
Vapour pressure	0,59 hPa (20 °C) 0,917 hPa (25 °C) 5,94 hPa (50 °C)
Density	ca. 0,94 g/ml (20 °C)
Relative density	No data available
Relative vapour density	No data available
Assessment nano particles	This substance/ mixture does not contain nanoforms

Particle size	No data available

9.2 Other information

Impact sensitivity	Not impact sensitive.
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Oxidizing properties	No oxidizing properties
Evaporation rate	No data available
Other physico-chemical properties	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
10.4 Conditions to avoid	Extremes of temperature and direct sunlight.
10.5 Incompatible materials	Store only in the original container.
10.6 Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute oral toxicity	LD50 (Rat) > 5.000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 5,07 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol.
Acute dermal toxicity	LD50 (Rat) > 5.000 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye irritation	Slight irritant effect - does not require labelling. (Rabbit)
Respiratory or skin sensitisation	Skin: Sensitising (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

p-Mentha-1,3-diene: This information is not available.
P-Cymene: May cause respiratory irritation.
(R)-p-mentha-1,8-diene: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

p-Mentha-1,3-diene: This information is not available.
P-Cymene: Based on available data, the classification criteria are not met.
(R)-p-mentha-1,8-diene: Based on available data, the classification criteria are not met.

Assessment mutagenicity

p-Mentha-1,3-diene: Based on available data, the classification criteria are not met.
P-Cymene: Based on available data, the classification criteria are not met.
(R)-p-mentha-1,8-diene is not considered mutagenic.

Assessment carcinogenicity

p-Mentha-1,3-diene: This information is not available.
P-Cymene: Based on available data, the classification criteria are not met.
(R)-p-mentha-1,8-diene: Based on available data, the classification criteria are not met.

Assessment toxicity to reproduction

p-Mentha-1,3-diene: This information is not available.
P-Cymene: Based on available data, the classification criteria are not met.
(R)-p-mentha-1,8-diene: Based on available data, the classification criteria are not met.

Assessment developmental toxicity

p-Mentha-1,3-diene: This information is not available.
P-Cymene: This information is not available.
(R)-p-mentha-1,8-diene: Based on available data, the classification criteria are not met.

Aspiration hazard

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	No data available
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 19,1 mg/l Exposure time: 48 h
	EC50 (Chironomus riparius (non-biting midge)) 5,1 mg/l

Exposure time: 48 h

Chronic toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 12,9 mg/l Exposure time: 48 d
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 13 mg/l Growth rate

12.2 Persistence and degradability

Biodegradability	p-Mentha-1,3-diene: No data available P-Cymene: 88 %, Exposure time: 14 d (R)-p-mentha-1,8-diene: rapidly biodegradable
Koc	p-Mentha-1,3-diene:No data available P-Cymene: Koc: 4050 (R)-p-mentha-1,8-diene: Koc: 2413

12.3 Bioaccumulative potential

Bioaccumulation	p-Mentha-1,3-diene: No data available P-Cymene: Bioconcentration factor (BCF) 286 (R)-p-mentha-1,8-diene: Bioconcentration factor (BCF) 690

12.4 Mobility in soil

Mobility in soil	p-Mentha-1,3-diene: No data available P-Cymene: Slightly mobile in soils (R)-p-mentha-1,8-diene: No data available

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment	p-Mentha-1,3-diene: No data available P-Cymene: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). (R)-p-mentha-1,8-diene: No data available

12.6 Endocrine disrupting properties

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Additional ecological information	No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Contaminated packaging	Not completely emptied packagings should be disposed of as hazardous waste.
Waste key for the unused product	**02 01 08*** agrochemical waste containing hazardous substances

SECTION 14: TRANSPORT INFORMATION

ADR/RID/ADN

14.1 UN number	**1993**
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (CYMENES SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	30
Tunnel Code	D/E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	**1993**
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (CYMENES SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	**1993**
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (CYMENES SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	NO

14.6 Special precautions for user
See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to IMO instruments
No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Further information

WHO-classification: U (Unlikely to present acute hazard in normal use)

15.2 Chemical safety assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
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.

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
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2020/878 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Reason for Revision: Safety Data Sheet according to Regulation (EU) No. 2020/878. The following sections have been revised: Section 2: Hazards Identification. Section 11: Toxicological Information.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.