V-2® Plus

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 12/10/2020 Revision date: 23/02/2022 Supersedes version of: 06/07/2021 Version: 1.2

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

1.1. Product identifier

Product form : Mixture

Trade name : V-2® Plus

Product group : Mixtures

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Lubricant

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Whitmore Manufacturing LLC
930 Whitmore Drive
75087 Rockwall, Texas
USA
T 1.972.771.1000
Regulatory@whitmores.com - www.jetlube.com

Distributor

Whitmore Europe Limited
Unit 9
Foster Avenue, Woodside Park Industrial Estate
Dunstable, Bedfordshire , LU5 5TA
United Kingdom
T +44 1707 379870
Regulatory@whitmores.com - www.whitmores.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals
United Kingdom	Chemtrec - United Kingdom	London	Local (City) +44 20 3807 3798	
United Kingdom	Chemtrec - United Kingdom		Local (National) +44 870 820 0418	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Signal word (CLP) : -

Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P273 - Avoid release to the environment.
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

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
4-hydroxy-4-methyl-2-pentanone (123-42-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
silicon dioxide, amorphous (7631-86-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component	
tridymite (15468-32-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ricinus oil	CAS-No.: 8001-79-4 EC-No.: 232-293-8	20 - 30	Not classified
4-hydroxy-4-methyl-2-pentanone substance with national workplace exposure limit(s) (GB)	CAS-No.: 123-42-2 EC-No.: 204-626-7 EC Index-No.: 603-016-00-1	5 - 10	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation:vapour), H331 Eye Irrit. 2, H319
silicon dioxide, amorphous substance with national workplace exposure limit(s) (GB)	CAS-No.: 7631-86-9 EC-No.: 231-545-4	0.182 – 0.364	Not classified
tridymite substance with national workplace exposure limit(s) (GB)	CAS-No.: 15468-32-3 EC-No.: 239-487-1	0.00727 – 0.0727	Carc. 1B, H350i
cristobalite, 1%≤conc respirable crystalline silica<10% substance with national workplace exposure limit(s) (GB)	CAS-No.: 14464-46-1 EC-No.: 238-455-4	0.00727 – 0.0727	STOT RE 2, H373

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
4-hydroxy-4-methyl-2-pentanone	CAS-No.: 123-42-2 EC-No.: 204-626-7 EC Index-No.: 603-016-00-1	(10 ≤C ≤ 100) Eye Irrit. 2, H319

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

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 : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : 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 in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
United Kingdom - Occupational Exposure Limits	
Local name	4-Hydroxy-4-methylpentan-2-one
WEL TWA (OEL TWA) [1]	241 mg/m³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	362 mg/m³
WEL STEL (OEL STEL) [ppm]	75 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

tridymite (15468-32-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Silica crystaline (Tridymite)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.1 mg/m³

cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Silica crystaline (Cristobalite)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.1 mg/m³

silicon dioxide, amorphous (7631-86-9)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	6 mg/m³ 2.4 mg/m³

8.1.2. Recommended monitoring procedures
No additional information available

8.1.3. Air contaminants formed
No additional information available

8.1.4. DNEL and PNEC
No additional information available

8.1.5. Control banding
No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection
No additional information available

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

8.2.2.3. Respiratory protection

Respiratory protection:

No respiratory protection needed under normal use conditions

8.2.2.4. Thermal hazards
No additional information available

8.2.3. Environmental exposure controls

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	: Liquid
Colour	: beige to light ambery brown.
Appearance	: Viscous.
Odour	: petroleum-like odour.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 113 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: > 25 mm²/s @ 40 C
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available

Vapour pressure : Not available
Vapour pressure at 50 °C : Not available
Density : Not available
Relative density : Not available
Relative vapour density at 20 °C : Not available
Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes
No additional information available

9.2.2. Other safety characteristics
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LD50 oral rat	3002 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2738 - 3290
LD50 oral	4000 mg/kg
LD50 dermal rat	> 1875 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 1875 mg/kg Source: ECHA
LC50 Inhalation - Rat (Vapours)	≥ 7.6 mg/l Source: ECHA

silicon dioxide, amorphous (7631-86-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Dermal)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
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)

silicon dioxide, amorphous (7631-86-9)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	≥ 4.106 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (if inhaled).

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

V-2® Plus	
Viscosity, kinematic	> 25 mm²/s @ 40 C

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Harmful to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Not rapidly degradable

ricinus oil (8001-79-4)	
LC50 - Fish [1]	> 1000 ppm (96 h, Pisces)

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

silicon dioxide, amorphous (7631-86-9)	
LC50 - Fish [1]	> 10000 mg/l (96 h, Brachydanio rerio, Literature)
EC50 - Crustacea [1]	> 10000 mg/l (24 h, Daphnia magna, Literature)
EC50 72h - Algae [1]	440 mg/l (Selenastrum capricornutum, Literature, Growth rate)

12.2. Persistence and degradability

ricinus oil (8001-79-4)	
Persistence and degradability	Readily biodegradable in water.

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.07 g O_2/g substance
Chemical oxygen demand (COD)	2.11 g O_2/g substance
ThOD	2.21 g O_2/g substance

tridymite (15468-32-3)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.

tridymite (15468-32-3)	
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

silicon dioxide, amorphous (7631-86-9)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

ricinus oil (8001-79-4)	
Bioaccumulative potential	No bioaccumulation data available.

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Partition coefficient n-octanol/water (Log Pow)	1.9 (Read-across, Equivalent or similar to OECD 117)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

tridymite (15468-32-3)	
Bioaccumulative potential	No bioaccumulation data available.

cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	
Partition coefficient n-octanol/water (Log Pow)	0.53 Source: QSAR
Bioaccumulative potential	No test data available.

silicon dioxide, amorphous (7631-86-9)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

ricinus oil (8001-79-4)	
Surface tension	0.039 N/m
Ecology - soil	No (test) data on mobility of the substance available.

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Ecology - soil	Low potential for adsorption in soil.

tridymite (15468-32-3)	
Ecology - soil	No (test)data on mobility of the substance available.

cristobalite, 1%≤conc respirable crystalline silica<10% (14464-46-1)	
Ecology - soil	No (test)data on mobility of the substance available.

silicon dioxide, amorphous (7631-86-9)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
WGK	Water Hazard Class
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
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 disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Carc. 1B	Carcinogenicity (inhalation) Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H350i	May cause cancer by inhalation.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

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.