

SECTION 1. Identification of the Substance / Mixture and of the Company

Product identifier: innovatek Protect IP / PRO - concentrate

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

Relevant identified uses: Antifreeze and anti-corrosion fluid for thermotechnical systems.

Details of the supplier of the safety data sheet

Identification of the company: innovatek OS GmbH, Stadtweg 9, 85134 Stammham
Phone: +49 (0) 8405 9259-0 / Fax: +49 (0) 8405 9259-21

Information about the product: E-mail (competent person): info@innovatek.de

Emergency information: Phone: +49 (0)8405 -9259-0 (weekdays 8 a.m. - 5 p.m.)

SECTION 2. Hazards Identification

Classification of the substance or mixture

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

Acute Tox. 4 (oral), STOT RE (Kidney) 2.

According to Directive 67/548/EEC or 1999/45/EC

Possible hazards: Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

According to Regulation (EC) No. 1272/2008 [CLP] / Globally Harmonized System, EU (GHS)

Signal Word: Warning.



Hazard Statements

H302 Harmful if swallowed.

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary Statements (Prevention)



P260 Do not breathe dust/gas/mist/vapours.

P270 Do not eat, drink or smoke when using this product.

P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response)

P311 Call a POISON CENTER or doctor/physician.

P301+P330 IF SWALLOWED: rinse mouth.

Precautionary Statements (Disposal)

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazard determining component for labelling: ETHANE-1,2-DIOL/ETHYLENEGLYCOL

According to Directive 67/548/EEC or 1999/45/EC ('Preparation Directive')

Hazard symbol



Xn Harmful.

R-phrases

R22 Harmful if swallowed.

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

S-phrases

S2 Keep out of reach of children.

S24/25 Avoid contact with skin and eyes.

S46 If swallowed, seek medical advice immediately and show this container or label.

Hazard determining component for labelling: ETHANE-1,2-DIOL/ETHYLENEGLYCOL

Other hazards

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

High risk of slipping due to leakage/spillage of product.

SECTION 3. Composition / Information on Ingredients

Chemical nature: Ethanediol (ethylene glycol). Inhibitors.

This product contains (a) substance(s) included on the candidate list according to article 59 (1, 10) of regulation EC No. 1907/2006 (REACH) in a concentration above 0.1 % w/w:

Disodium tetraborate pentahydrate / borax pentahydrate.

Hazardous ingredients according to Regulation 1272/2008/EC and Directive 1999/45/EC

Substance	Reg. 1272/2008/EC [CLP/GHS]	Dir. 1999/45/EC
Ethanediol (ethylene glycol)		
Content (w/w): > 90 %	Acute Tox. 4 (oral)	Hazard symbol: Xn
CAS number: 107-21-1	STOT RE (Kidney 2)	R-phrases: 22, 48/22
EC number: 203-473-3	H302, H373	
INDEX number: 603-027-00-1		
REACH registration number: 01-2119456816-28		
2-ethylhexanoic acid, sodium salt		
Content (w/w): > 2 % - < 3 %	Repr. 2 (unborn child)	Hazard symbol: Xn
CAS number: 19766-89-3	H361d	R-phrases: 63
EC number: 243-283-8		
Disodium tetraborate pentahydrate / borax pentahydrate		
Content (w/w): $\geq 0.075\% \leq 0,1\%$	Eye Dam./Irrit. 1	Hazard symbol: T
CAS number: 12179-04-3	Repr. 1B (fertility)	R-phrases: 41, 60, 61
EC number: 215-540-4	Repr. 1B (unborn child)	Repr. Cat. 2
INDEX number: 005-011-02-9	H318, H360FD	
REACH registration number: 01-2119490790-32		

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R-phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4. First-Aid Measures

Description of first aid measures

General advice: Remove contaminated clothing.

If inhaled: If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact: Wash thoroughly with soap and water.

On contact with eyes: Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion: Rinse mouth immediately and then drink plenty of water, seek medical attention. Administer 50 ml of pure ethanol in a drinkable concentration.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling of the product (see section 2) and/or in section 11. Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

SECTION 5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: water spray, dry powder, alcohol-resistant foam.

Special hazards arising from the substance or mixture

Harmful vapours. Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment: Wear a self-contained breathing apparatus.

Further information

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6. Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Pump off product. For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7. Handling and Storage

Precautions for safe handling

Advice on safe handling: Ensure thorough ventilation of stores and work areas. Shut containers immediately after taking product because product takes up the humidity of air.

Advice on protection against fire/explosion: No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Storage in galvanized containers is not recommended.

Specific end uses

For the relevant identified uses listed in section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8. Exposure Control / Personal Protection

Control parameters

Components with occupational exposure limits

107-21-1: Ethanediol (ethylene glycol)

TWA value 52 mg/m³; 20 ppm (OEL (EU)) indicative. STEL value 104 mg/m³; 40 ppm (OEL (EU)) indicative. Skin Designation (OEL (EU)). The substance can be absorbed through the skin.

12179-04-3: Disodium tetraborate pentahydrate / borax pentahydrate

Exposure controls

Personal protective equipment

Respiratory protection: Suitable respiratory protection for higher concentrations or long-term effect. Combination filter for gases/vapours of organic compounds and solid and liquid particles (e.g. EN 14387 type A-P2).

Hand protection: Chemical resistant protective gloves (EN 374). Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time according to EN 374): nitrile rubber (NBR) - 0.4 mm coating thickness. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection: Safety glasses with side-shields (frame goggles) (e.g. EN 166).

General safety and hygiene measures: Do not inhale gases/vapours/aerosols. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

SECTION 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form: liquid.
Colour: colourless.

SECTION 9. Physical and Chemical Properties - Continuation

Odour:	product specific.
Odour threshold:	no applicable information available.
pH value (20 °C):	7.1-7.3 (ASTM D 1287)
Solidification temperature:	≤ -18°C (DIN/ISO 3016)
Boiling point:	≥ 165°C (ASTM D 1120)
Flash point:	126,5°C (DIN EN 22719, ISO 2719)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapour pressure.
Flammability:	not flammable.
Lower explosion limit (20 °C):	4.9 Vol.-% (Air)
Upper explosion limit (20 °C):	14.6 % vol. (Air)
Ignition temperature:	>440°C (DIN 51794)
Vapour pressure (20 °C):	0.2 hPa.
Density (20 °C):	1.122 g/cm ³ (DIN 51757)
Solubility (qualitative) solvents:	polar solvents: soluble.
Partitioning coefficient n-octanol/water (log Kow):	Study scientifically not justified.
Self ignition:	not self igniting.
Viscosity (kinematic, 20 °C):	20-30 mm ² /s. (DIN 51562)
Explosion hazard:	not explosive.
Fire promoting properties:	not fire-propagating.
Other Information	
Miscibility with water:	miscible in all proportions.
Hygroscopy:	hygroscopic.

SECTION 10. Stability and Reactivity

Reactivity:	No hazardous reactions if stored and handled as prescribed/indicated. Corrosion to metals: No corrosive effect on metals.
Chemical stability:	The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions:	No hazardous reactions when stored and handled according to instructions.
Conditions to avoid:	No conditions to avoid anticipated.
Incompatible materials:	Substances to avoid: strong oxidising agents.
Hazardous decomposition products:	No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11. Toxicological Information

Information on toxicological effects

Acute toxicity:	Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of low toxicity after short-term skin contact. Experimental/calculated data: LD50 human (oral): approx. 1600 mg/kg. LD50 rabbit (dermal): >2000 mg/kg. Literature data.
Irritation:	Experimental/calculated data: Skin corrosion/irritation rabbit: non-irritant. Serious eye damage/irritation rabbit: non-irritant.
Respiratory / Skin sensitization:	Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. Human data do not fully exclude a skin sensitizing potential.
Carcinogenicity:	Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect.
Developmental toxicity:	Information on: ethanediol (ethylene glycol) Assessment of teratogenicity: In animal studies the substance caused malformations when given at high doses.
Repeated dose toxicity and Specific target organ toxicity (repeated exposure):	Information on: ethanediol (ethylene glycol). Assessment of repeated dose toxicity: The substance may cause damage to the kidney after repeated ingestion. The substance may cause damage to the kidney after repeated skin contact with high doses.
Other relevant toxicity information:	The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12. Ecological Information

Toxicity:	Toxicity to fish: LC50 (96 h): >100 mg/l, <i>Leuciscus idus</i> . Aquatic invertebrates: EC50 (48 h): >100 mg/l, <i>Daphnia magna</i> . Aquatic plants: EC50 (72 h): >100 mg/l, algae. Microorganisms/effect on activated sludge: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
Persistence and degradability:	Elimination information: >70 % DOC reduction (28d) (OECD 301 A, new version). Evaluation: Readily biodegradable.
Bioaccumulative potential:	Bioaccumulative potential: Accumulation in organisms is not to be expected.
Mobility in soil:	Assessment transport between environmental compartments: The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
Results of PBT and vPvB assessment:	According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.
Other adverse effects:	The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.
Additional information:	Other ecotoxicological advice: Do not release untreated into natural waters. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13. Disposal Considerations

Waste treatment methods

Recommendations for the product:	The product must be disposed of or incinerated in accordance with local regulations. Waste key: 16 01 14 - antifreeze fluids containing dangerous substances. The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require different waste-code assignments.
Recommendations for the packaging:	Uncontaminated packs can be re-used. Packaging that cannot be cleaned should be disposed of in the same manner as the product.

SECTION 14. Transport Information

Land transport - ADR/RID:	Not classified as a dangerous good under transport regulations.
Inland waterway transp. - ADN:	Not classified as a dangerous good under transport regulations.
Sea transport - IMDG:	Not classified as a dangerous good under transport regulations.
Air transport - ICAO/IATA:	Not classified as a dangerous good under transport regulations.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not evaluated.	

SECTION 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance/mixture
Chemical Safety Assessment
Chemical Safety Assessment not yet performed due to registration timelines.

SECTION 16. Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)
Acute Tox. 4 (oral)
STOT RE (Kidney) 2

SECTION 16. Other Information - Continuation

Full text of the classifications, including the indication of danger, the hazard symbols, the R-phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
T	Toxic.
R22	Harmful if swallowed.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R63	Possible risk of harm to the unborn child.
R41	Risk of serious damage to eyes.
R60	May impair fertility.
R61	May cause harm to the unborn child.
Acute Tox.	Acute toxicity.
STOT RE	Specific target organ toxicity - repeated exposure.
Repr.	Reproductive toxicity.
Eye Dam./Irrit.	Serious eye damage/eye irritation.
Repr. Cat. 2	Reprotoxic substances (fertility or development) Category 2: Substances which should be regarded as if they cause developmental toxicity to humans or substances which should be regarded as if they impair fertility in humans.
H302	Harmful if swallowed.
H373	May cause damage to organs (Kidney) through prolonged or repeated exposure.
H361d	Suspected of damaging the unborn child.
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage the unborn child.

Acronyms used in this document in alphabetical order

ADN	European agreement concerning the international carriage of dangerous goods by inland waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).
ADR	European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif au transport des marchandises dangereuses par route).
ASTM	American Society for Testing and Materials.
CAS	Chemical Abstract Service.
CLP	Classification, Labelling and Packaging.
DIN	German Standards Institute / German industrial norm (Deutsches Institut für Normung/ Deutsche Industrienorm).
DOC	Dissolved organic carbon.
EC50	Effective Concentration 50 %.
GHS	Globally Harmonised System of Classification, Labelling and Packaging of Chemicals.
IATA	International Air Transport Association.
IBC	Intermediate Bulk Container.
ICAO	International Civil Aviation Organization.
IMDG	International Maritime Dangerous Goods Code.
INDEX	Annex VI of Regulation No. (EC) 1272/2008 [CLP/GHS].
LC50	Lethal Concentration 50 %.
LD50	Lethal Dose 50 %.
MARPOL	International Convention for the Prevention of Marine Pollution from Ships.
OECD	Organization for Economic Cooperation and Development.
OEL	Occupational Exposure Limit.
REACH	Registration, Evaluation and Authorization of Chemicals.
RID	Regulations concerning the international carriage of dangerous goods by rail (Règlement concernant le transport International ferroviaire de marchandises Dangereuses).
STEL	Short-term Exposure Limit.
TWA	Time Weighted Average.

Vertical lines in the left hand margin indicate an amendment from the previous version.

This safety data sheet is intended to provide information and recommendations as to: 1. how to handle chemical substances and preparations in accordance with the essential requirements of safety precautions and physical, toxicological, and ecological data. 2. how to handle, store, use, and transport them safely.

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