

SAFETY DATA SHEET

HYCOOL 20, 45, 50



SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued 11.06.2003

Revision date 30.09.2014

1.1. Product identifier

Product name HYCOOL 20, 45, 50
Chemical name Potassium formate
REACH Reg. No. 01-2119486456-26-0006
CAS no. 590-29-4
EC no. 209-677-9
Article no. PZ032/34/35, L000/L89A

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

Product group Secondary coolant.
Use of the substance/preparation Secondary coolant for cooling, freezing and heat pump applications.
Relevant identified uses SU10, SU22
PC16
PROC8b, PROC9, PROC8a
ERC9A, ERC9B

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name ADDCON Nordic AS
Office address Herøya Industrial park B-85, Hydrovegen 55
Postal address Postboks 1138, 3905 Porsgrunn
Postcode 3936
City Porsgrunn
Country NORWAY
Tel +47 35 56 41 00
Fax +47 35 56 41 01
E-mail oyvind.oskarsen.due@addcon.com
Website <http://www.addcon.com>
Enterprise no. 988 774 677

1.4. Emergency telephone number

Emergency telephone ADDCON Nordic AS:+47 35 56 41 37/ Mob +47 48 26 91 48

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to On basis of test data
Regulation (EC) No 1272/2008
[CLP/GHS]

2.2. Label elements

R-phrases	The product does not require labelling.
S-phrases	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
Composition on the label	Potassium formate: 30 - 50 %, Water: 50 - 70 %, Potassium carbonate: < 1,5 %, Corrosion inhibitor: < 0,5 %
Precautionary statements	P280 Wear protective gloves/protective clothing/eye protection/face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Description of hazard	The product is neither subject to classification nor classified as environmental hazard. This is based upon the regulation requirements in force, as well as OECD studies.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Potassium formate	CAS no.: 590-29-4 EC no.: 209-677-9 Registration number: 01-2119486456-26-0006		30 - 50 %
Water	CAS no.: 7732-18-5 EC no.: 231-791-2		50 - 70 %
Potassium carbonate	CAS no.: 584-08-7 EC no.: 209-529-3	R36/37/38 Xi ;H315 ;H319 ;H335	< 1,5 %
Corrosion inhibitor	CAS no.: - EC no.: -		< 0,5 %
Description of the mixture	Liquid		
Substance comments	None of the components are subjected to classification.		

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Immediately move the patient from the source of exposure. General first aid. Move to fresh air, keep the patient warm and at rest. If unconscious: Loosen tight clothing, place in stable position on one side. Give artificial respiration if breathing has stopped. Contact a physician if symptoms occur.
Inhalation	Flush mouth, nose and throath with lots of water. Summon physician if discomfort persists.
Skin contact	Remove contaminated clothing and flush skin with copious amounts of water. Wash skin thoroughly with soap and water. If skin is very dry after washing, use lotion.
Eye contact	Flush immediately with lukewarm, running water for at least 15 minutes, also under the eyelids. Get medical advice if discomfort continues.
Ingestion	Do not induce vomiting. Rinse mouth thoroughly and give large amounts of milk or water to drink if person is conscious. Get medical advice immediately.

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

Information for health personnel	Contact the national Poisons Information Centre. General medical examination.
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4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry powder, foam or carbon dioxide (CO₂), water.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards The product is not flammable.

In case of a fire the water may evaporate completely. When heated to 300 °C, the product will decompose to hydrogen and potassium oxalate. Formation of Hydrogen may cause danger of explosion

5.3. Advice for firefighters

Personal protective equipment Generally: Evacuate all persons. Wear complete protective suit for fire extinguishing. Use self-contained breathing apparatus and full protective gear when the product is involved in fire.

Other Information The fire should be extinguished from a safe place.
Containers exposed to flames can be cooled with water. Containers can be moved in case of no risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures Avoid spillage, skin and eye contact. Use protective equipment as described in item 8.

6.2. Environmental precautions

Environmental precautionary measures Although the product it not classified as environmental hazard accidental emissions need to be limited.
Inform appropriate authorities if larger volumes are involved.

6.3. Methods and material for containment and cleaning up

Cleaning method Pump or mix the chemical with an inert material (sand, vermiculite, sawdust, bark, etc.), collect it and place in a suitable container. Container should be labelled with the products name and composition. Finish treatment of area with water. Dispose in accordance with section 13.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Avoid spillage, skin and eye contact. Use protective equipment as described in item 8.

7.2. Conditions for safe storage, including any incompatibilities

Storage No special storage requirements.

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Limitation of exposure on workplace Evaluate the most appropriate way for controlling the exposure of chemicals to air, and if mobile or stationary test methods are most convenient. Ensure good ventilation. Eye wash facilities and shower near working area.
All protective equipment should be labelled with CE.
Wash hands after working with the product.

Precautionary measures to prevent exposure

Product-related measures to prevent exposure Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Respiratory protection Normally not necessary.

Hand protection

Hand protection Use protective gloves of impervious material, e.g.: rubber gloves.

Suitable gloves type Polyvinylchloride / nitrile rubber gloves.

Reference to relevant standard EN 374: level 6

Suitable materials E.g. rubber.

Unsuitable materials Gloves of fabric.

Breakthrough time Suitable material nitrile rubber

Glove thickness approx 0,55 mm

Break through time > 480 min

Suitable material polyvinylchloride / nitrile rubber

Glove thickness approx 0,9 mm

Break through time > 480 min

Eye / face protection

Eye protection Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.

Skin protection

Skin protection (except hands) For work involving chemical spills, it is recommended to wear a full body suit to protect against penetration by the chemicals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	Colourless
Odour	No odour
pH (as supplied)	Value: 10,6-11,4
Boiling point / boiling range	Value: 105-115 °C
Vapour pressure	20 mmHg (20°C)
Specific gravity	Value: 1,2-1,35 g/cm ³
Solubility in water	Completely soluble in water
Viscosity	Value: 1,8-2,6 cP (20°C)

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Avoid contact with strong oxidizing materials such as Nitric acid, Hydrogen peroxide and Sulphuric acid

10.2. Chemical stability

Stability The product is stable at normal temperatures for use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No hazardous reactions under normal use.

10.4. Conditions to avoid

Conditions to avoid Non.

10.5. Incompatible materials

Materials to avoid Will corrode Galvanized steel, Zinc and Tin solder (soft solder).

10.6. Hazardous decomposition products

Hazardous decomposition products The product is stable at normal temperatures for use.

By heating dry Potassium Formate above 300°C it decomposes to Hydrogen and Potassium Oxalate. Formation of Hydrogen may cause danger of explosion.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Other information regarding health hazards

General There is no health hazard associated with the normal use of this product.

Potential acute effects

Inhalation At normal use or storage the product has low evaporation rate.
 Skin contact Prolonged or repeated contact may cause irritation and dehydration of the skin.
 Eye contact Contact with eyes may cause irritation, tears and redness.
 Ingestion Low health hazard when ingested. Larger amounts may cause irritation in throat/stomach. Sickness and discomfort.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity LC50, fish (pimephales promelas), 96h: 1750 mg/l.
 LC50, Daphnia magna, 48h: 2500 mg/l.
 LC50, Rainbow Trout, 48h: 4600 mg/l

Toxicological data for substances

Substance Potassium formate
 Acute aquatic, fish Value: = 3500 mg/l
 Method of testing: OECD Guideline 203 (Fish, Acute)
 Species: Oncorhynchus mykiss
 Duration: 96 h
 Acute aquatic, algae Value: = 3700 mg/l
 Method of testing: ISO 10253 (Water quality - Marin)
 Species: Skeletonema costatum (algae)
 Duration: 72 h
 Acute aquatic, Daphnia Value: > 1000 mg/l
 Method of testing: U.S. EPA (1975): Methods for acu
 Species: Daphnia magna
 Duration: 48 h
 Surface tension Value: 72 mN/m (20°C)
 Water solubility Value: 100 g/l
 Biodegradability Value: = 92
 Test period: 28 days
 Method of testing: OECD Guideline 301 D
 Bioaccumulation In accordance with column 2 of Annex Annex IX, studies need not be conducted if 1-octanol/water coefficient is <3 Because of the low logPow (OSPAR, 2002), accumulation in organisms is not expected.

12.2. Persistence and degradability

Chemical oxygen demand (COD) Value: 0,095
 Comments COD gO2 /g
 Biological oxygen demand (BOD) Value: 0,09
 Test period: 5 days

Comments, BOD g O₂/g
 Persistence and degradability Readily biological degradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Do not bioaccumulate.

12.4. Mobility in soil

Water solubility Value: > 1000
 Comments, Water solubility g/l
 Dissolves completely in water.

12.5. Results of PBT and vPvB assessment

PBT assessment results Not PBT or vPvB.

12.6. Other adverse effects

Other adverse effects / Remarks The product does not bioaccumulate.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal Not classified as hazardous waste. Smaller quantities may be flushed away with large amounts of water. Larger amounts of leftovers and spills should be disposed by a professional waste disposal company or used for recirculation if possible.

Other Information

All waste must be treated in accordance with local and national regulations.
 The product is not classified as environmental hazard, but should nevertheless be treated carefully and not be flushed into drains, water reservoirs or be disposed in nature.
 If considerably amounts are emitted into lakes, there might be a local increase in pH.
 Water hazard class 1

SECTION 14: Transport information

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

Special safety precautions for user Non.

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

Additional information.

Additional information. Not classified as dangerous goods.

SECTION 15: Regulatory information

EC no. 209-677-9

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

EEC-directive REGULATION (EC) No 1907/2006 REACH article 31 Requirements for Safety Data Sheets, and Annex II guide to the compilation of safety data sheets.
 CLP-Regulation (EC) No 1272/2008
 Classification and labelling have been performed according to EU directives 67/548/EEC, 1999/45/EC, including amendments and the intended use
 Legislation and regulations Norwegian substances list (stoffliste) 2005 Climate and Pollution Agency (KLIF)

Norwegian occupational exposure limit values (Administrative normer for forurensning i arbeidsatmosfære, Arbeidstilsynet, best.nr. 361). (91/322/EEC, 96/94/EC, 2000/39/EC, 2006/15/EC)

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
CSR required	Yes
CSR location	In accordance with REACH article 14, a Chemical safety assessment has been carried out for this substance.

SECTION 16: Other information

Supplier's notes	The safety data sheet has been approved in accordance with the regulations in force.
List of relevant R-phrases (under headings 2 and 3).	R36/37/38 Irritating to eyes, respiratory system and skin.
List of relevant H-phrases (Section 2 and 3).	H315 Causes skin irritation. H335 May cause respiratory irritation. H319 Causes serious eye irritation.
Important data sources used to construct the safety data sheet	Chemical safety report (CSR) for potassium formate.
Version	4
Responsible for safety data sheet	ADDCON Nordic AS
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