

SAFETY DATA SHEET

Date of issue/Date of revision

: 15 May 2018

Version

: 2



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

1.1 Product identifier

Product name : BHPAB
Product code : BHPAB
Other means of identification : Not available.

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

Product use : Professional applications.
Use of the substance/mixture : Coating.

1.3 Details of the supplier of the safety data sheet

PPG Industries (UK) Ltd.
Needham Rd,
Stowmarket,
Suffolk
IP14 2AD
UK

+44 (0) 1449 771775

- Technical contact : PPG Industries (UK) Ltd
- Tel : +44 (0) 1753 611543/611615/611685
- Fax : +44 (0) 1753 611632

e-mail address of person responsible for this SDS : EurMsdsContact@ppg.com

1.4 Emergency telephone number

Supplier

+44 (0) 1449 771775

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

☑ Aérosol 1, H222, H229

Eye Irrit. 2, H319

STOT SE 3, H336

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

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SECTION 2: Hazards identification

Hazard pictograms :



Signal word : Danger

Hazard statements :
 F+ Extremely flammable aerosol.
 Pressurised container: May burst if heated.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :
 P201 P202 Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Avoid breathing vapour. Do not pierce or burn, even after use.

Response :
 P280 P301 P312 P331 P332 P333 P361 P353 P354 P363 P370 P378 P380 P381 P390 P403 P405 P406 P407 P410 P412
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage :
 P201 P202 P231 P232 P233 P234 P235 P240 P241 P242 P243 P244 P250 P251 P252 P253 P254 P255 P256 P257 P258 P259 P261 P262 P263 P264 P265 P266 P267 P268 P269 P270 P271 P272 P273 P274 P275 P276 P277 P278 P279 P280 P281 P282 P283 P284 P285 P286 P287 P288 P289 P290 P291 P292 P293 P294 P295 P296 P297 P298 P299 P300 P301 P302 P303 P304 P305 P306 P307 P308 P309 P310 P311 P312 P313 P314 P315 P316 P317 P318 P319 P320 P321 P322 P323 P324 P325 P326 P327 P328 P329 P330 P331 P332 P333 P334 P335 P336 P337 P338 P339 P340 P341 P342 P343 P344 P345 P346 P347 P348 P349 P350 P351 P352 P353 P354 P355 P356 P357 P358 P359 P360 P361 P362 P363 P364 P365 P366 P367 P368 P369 P370 P371 P372 P373 P374 P375 P376 P377 P378 P379 P380 P381 P382 P383 P384 P385 P386 P387 P388 P389 P390 P391 P392 P393 P394 P395 P396 P397 P398 P399 P400 P401 P402 P403 P404 P405 P406 P407 P408 P409 P410 P411 P412 P413 P414 P415 P416 P417 P418 P419 P420 P421 P422 P423 P424 P425 P426 P427 P428 P429 P430 P431 P432 P433 P434 P435 P436 P437 P438 P439 P440 P441 P442 P443 P444 P445 P446 P447 P448 P449 P450 P451 P452 P453 P454 P455 P456 P457 P458 P459 P460 P461 P462 P463 P464 P465 P466 P467 P468 P469 P470 P471 P472 P473 P474 P475 P476 P477 P478 P479 P480 P481 P482 P483 P484 P485 P486 P487 P488 P489 P490 P491 P492 P493 P494 P495 P496 P497 P498 P499 P500 P501 P502 P503 P504 P505 P506 P507 P508 P509 P510 P511 P512 P513 P514 P515 P516 P517 P518 P519 P520 P521 P522 P523 P524 P525 P526 P527 P528 P529 P530 P531 P532 P533 P534 P535 P536 P537 P538 P539 P540 P541 P542 P543 P544 P545 P546 P547 P548 P549 P550 P551 P552 P553 P554 P555 P556 P557 P558 P559 P560 P561 P562 P563 P564 P565 P566 P567 P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583 P584 P585 P586 P587 P588 P589 P590 P591 P592 P593 P594 P595 P596 P597 P598 P599 P600 P601 P602 P603 P604 P605 P606 P607 P608 P609 P610 P611 P612 P613 P614 P615 P616 P617 P618 P619 P620 P621 P622 P623 P624 P625 P626 P627 P628 P629 P630 P631 P632 P633 P634 P635 P636 P637 P638 P639 P640 P641 P642 P643 P644 P645 P646 P647 P648 P649 P650 P651 P652 P653 P654 P655 P656 P657 P658 P659 P660 P661 P662 P663 P664 P665 P666 P667 P668 P669 P670 P671 P672 P673 P674 P675 P676 P677 P678 P679 P680 P681 P682 P683 P684 P685 P686 P687 P688 P689 P690 P691 P692 P693 P694 P695 P696 P697 P698 P699 P700 P701 P702 P703 P704 P705 P706 P707 P708 P709 P710 P711 P712 P713 P714 P715 P716 P717 P718 P719 P720 P721 P722 P723 P724 P725 P726 P727 P728 P729 P730 P731 P732 P733 P734 P735 P736 P737 P738 P739 P740 P741 P742 P743 P744 P745 P746 P747 P748 P749 P750 P751 P752 P753 P754 P755 P756 P757 P758 P759 P760 P761 P762 P763 P764 P765 P766 P767 P768 P769 P770 P771 P772 P773 P774 P775 P776 P777 P778 P779 P780 P781 P782 P783 P784 P785 P786 P787 P788 P789 P790 P791 P792 P793 P794 P795 P796 P797 P798 P799 P800 P801 P802 P803 P804 P805 P806 P807 P808 P809 P810 P811 P812 P813 P814 P815 P816 P817 P818 P819 P820 P821 P822 P823 P824 P825 P826 P827 P828 P829 P830 P831 P832 P833 P834 P835 P836 P837 P838 P839 P840 P841 P842 P843 P844 P845 P846 P847 P848 P849 P850 P851 P852 P853 P854 P855 P856 P857 P858 P859 P860 P861 P862 P863 P864 P865 P866 P867 P868 P869 P870 P871 P872 P873 P874 P875 P876 P877 P878 P879 P880 P881 P882 P883 P884 P885 P886 P887 P888 P889 P890 P891 P892 P893 P894 P895 P896 P897 P898 P899 P900 P901 P902 P903 P904 P905 P906 P907 P908 P909 P910 P911 P912 P913 P914 P915 P916 P917 P918 P919 P920 P921 P922 P923 P924 P925 P926 P927 P928 P929 P930 P931 P932 P933 P934 P935 P936 P937 P938 P939 P940 P941 P942 P943 P944 P945 P946 P947 P948 P949 P950 P951 P952 P953 P954 P955 P956 P957 P958 P959 P960 P961 P962 P963 P964 P965 P966 P967 P968 P969 P970 P971 P972 P973 P974 P975 P976 P977 P978 P979 P980 P981 P982 P983 P984 P985 P986 P987 P988 P989 P990 P991 P992 P993 P994 P995 P996 P997 P998 P999

Disposal : Not applicable.

Hazardous ingredients : acetone

Supplemental label elements : Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	% by weight	Classification Regulation (EC) No. 1272/2008 [CLP]	Type

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SECTION 3: Composition/information on ingredients

acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
dimethyl ether	EC: 204-065-8 CAS: 115-10-6 Index: 603-019-00-8	≥10 - ≤25	Flam. Gas 1, H220 Press. Gas (Comp.), H280	[2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥10 - <20	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
butane	EC: 203-448-7 CAS: 106-97-8 Index: 601-004-00-0	≥5.0 - ≤10	Flam. Gas 1, H220 Press. Gas (Comp.), H280	[2]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≥1.0 - ≤5.0	Flam. Liq. 3, H226	[2]
trizinc bis(orthophosphate)	REACH #: 01-2119485044-40 EC: 231-944-3 CAS: 7779-90-0 Index: 030-011-00-6	≥0.30 - <2.5	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≥1.0 - <3.0	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
propan-2-ol	REACH #: 01-2119457558-25 EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≥1.0 - ≤5.0	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1] [2]
See Section 16 for the full text of the H statements declared above.				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

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SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : ☒ Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
phosphorus oxides
metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

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SECTION 6: Accidental release measures


6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.


SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

-  Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

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SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters**Occupational exposure limits**

Product/ingredient name	Exposure limit values
acetone	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 3620 mg/m ³ 15 minutes. STEL: 1500 ppm 15 minutes. TWA: 1210 mg/m ³ 8 hours. TWA: 500 ppm 8 hours.
dimethyl ether	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 958 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 766 mg/m ³ 8 hours. TWA: 400 ppm 8 hours.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 966 mg/m ³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m ³ 8 hours. TWA: 150 ppm 8 hours.
butane	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 1810 mg/m ³ 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1450 mg/m ³ 8 hours. TWA: 600 ppm 8 hours.
2-methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 548 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 274 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
butan-1-ol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 154 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes.
propan-2-ol	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 1250 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 999 mg/m ³ 8 hours. TWA: 400 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
acetone	DNEL	Long term Inhalation	1210 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	2420 mg/m ³	Workers	Local
	DNEL	Long term Dermal	186 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	200 mg/m ³	Consumers	Systemic
	DNEL	Long term Dermal	62 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	62 mg/kg bw/day	Consumers	Systemic
n-butyl acetate	DNEL	Long term Inhalation	480 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	480 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	102.34 mg/m ³	Consumers	Systemic
	DNEL	Short term Inhalation	859.7 mg/m ³	Consumers	Systemic
	DNEL	Long term Inhalation	102.34 mg/m ³	Consumers	Local
	DNEL	Short term Inhalation	859.7 mg/m ³	Consumers	Local
	DNEL	Long term Inhalation	275 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	153.5 mg/kg	Workers	Systemic
2-methoxy-1-methylethyl acetate	DNEL	Long term Oral	1.67 mg/kg	Consumers	Systemic
	DNEL	Long term Inhalation	33 mg/m ³	Consumers	Systemic
	DNEL	Long term Dermal	54.8 mg/kg	Consumers	Systemic
	DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic
trizinc bis(orthophosphate)	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	2.5 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	310 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	3.125 mg/kg	Consumers	Systemic
butan-1-ol	DNEL	Long term Inhalation	55 mg/m ³	Consumers	Systemic
	DNEL	Long term Dermal	888 mg/kg bw/day	Workers	Systemic
propan-2-ol	DNEL	Long term Inhalation	500 mg/m ³	Workers	Systemic

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	DNEL	Long term Dermal	319 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	89 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	26 mg/kg bw/day	Consumers	Systemic

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
acetone	-	Fresh water	10.6 mg/l	Assessment Factors
	-	Marine water	1.06 mg/l	Assessment Factors
	-	Sewage Treatment Plant	100 mg/l	Assessment Factors
n-butyl acetate	-	Fresh water sediment	30.4 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	3.04 mg/kg dwt	Equilibrium Partitioning
	-	Soil	29.5 mg/kg dwt	Equilibrium Partitioning
2-methoxy-1-methylethyl acetate	-	Fresh water	0.18 mg/l	-
	-	Marine water	0.018 mg/l	-
	-	Fresh water sediment	0.981 mg/kg	-
trizinc bis(orthophosphate)	-	Marine water sediment	0.0981 mg/kg	-
	-	Sewage Treatment Plant	35.6 mg/l	-
	-	Soil	0.0903 mg/kg	-
butan-1-ol	-	Fresh water	0.635 mg/l	-
	-	Marine water	0.0635 mg/l	-
	-	Fresh water sediment	3.29 mg/kg	-
propan-2-ol	-	Marine water sediment	0.329 mg/kg	-
	-	Soil	0.29 mg/kg	-
	-	Sewage Treatment Plant	100 mg/l	-
butan-1-ol	-	Fresh water	20.6 µg/l	Sensitivity Distribution
	-	Marine water	6.1 µg/l	Sensitivity Distribution
	-	Sewage Treatment Plant	100 µg/l	Assessment Factors
propan-2-ol	-	Fresh water sediment	117.8 mg/kg dwt	Sensitivity Distribution
	-	Marine water sediment	56.5 mg/kg dwt	Equilibrium Partitioning
	-	Soil	35.6 mg/kg dwt	Sensitivity Distribution
propan-2-ol	-	Fresh water	0.082 mg/l	-
	-	Marine water	0.0082 mg/l	-
	-	Fresh water sediment	0.178 mg/kg	-
propan-2-ol	-	Marine water sediment	0.0178 mg/kg	-
	-	Soil	0.015 mg/kg	-
	-	Sewage Treatment Plant	2476 mg/l	-
propan-2-ol	-	Fresh water	140.9 mg/l	Assessment Factors
	-	Marine water	140.9 mg/l	Assessment Factors
	-	Secondary Poisoning	160 mg/kg	-
propan-2-ol	-	Fresh water sediment	552 mg/kg dwt	-
	-	Marine water sediment	552 mg/kg dwt	-
	-	Sewage Treatment Plant	2251 mg/l	Assessment Factors
propan-2-ol	-	Soil	28 mg/kg dwt	-

8.2 Exposure controls

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SECTION 8: Exposure controls/personal protection

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Chemical splash goggles. Use eye protection according to EN 166.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended.
- Gloves** : For prolonged or repeated handling, use the following type of gloves:
- May be used: polyvinyl alcohol (PVA), Viton®
Recommended: Chloroprene, neoprene, butyl rubber, nitrile rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: Liquid.
Product type	: <input checked="" type="checkbox"/> Aerosol.
Colour	: Not available.
Odour	: Not available.
Odour threshold	: Not available.
pH	: insoluble in water.
Melting point/freezing point	: May start to solidify at the following temperature: -66°C (-86.8°F) This is based on data for the following ingredient: 2-methoxy-1-methylethyl acetate. Weighted average: -94.47°C (-138°F)
Initial boiling point and boiling range	: >37.78°C
Flash point	: Closed cup: -80°C
Evaporation rate	: Highest known value: 6.06 (acetone) Weighted average: 3.82 compared with butyl acetate
Material supports combustion.	: Yes.
Flammability (solid, gas)	: liquid
Upper/lower flammability or explosive limits	: Greatest known range: Lower: 2.2% Upper: 13% (acetone)
Vapour pressure	: Highest known value: 24 kPa (180 mm Hg) (at 20°C) (acetone). Weighted average: 13.26 kPa (99.46 mm Hg) (at 20°C)
Vapour density	: Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 2.88 (Air = 1)
Relative density	: 0.79
Solubility(ies)	: Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not applicable.
Auto-ignition temperature	: Lowest known value: 333°C (631.4°F) (2-methoxy-1-methylethyl acetate).
Decomposition temperature	: Stable under recommended storage and handling conditions (see Section 7).
Viscosity	: Kinematic (40°C): >0.21 cm ² /s
Viscosity	: 30 - <40 s (ISO 6mm)
Explosive properties	: Not available.
Oxidising properties	: Product does not present an oxidizing hazard.

9.2 Other information**Aerosol product**

Type of aerosol	: <input checked="" type="checkbox"/> Spray
Heat of combustion	: <input checked="" type="checkbox"/> 26.59 kJ/g

No additional information.

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SECTION 10: Stability and reactivity**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.**10.2 Chemical stability** : The product is stable.**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.**10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.**10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.**10.6 Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides phosphorus oxides metal oxide/oxides**SECTION 11: Toxicological information****11.1 Information on toxicological effects**Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LC50 Inhalation Vapour	Rat	76000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	15.8 g/kg	-
	LD50 Oral	Rat	5800 mg/kg	-
dimethyl ether	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	309 g/m ³	4 hours
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
butane	LC50 Inhalation Vapour	Rat	658000 mg/m ³	4 hours
isobutane	LC50 Inhalation Vapour	Rat	658000 mg/m ³	4 hours
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
butan-1-ol	LC50 Inhalation Vapour	Rat	24000 mg/m ³	4 hours
	LC50 Inhalation Vapour	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
propan-2-ol	LC50 Inhalation Vapour	Rat	72600 mg/m ³	4 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	4.396 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.Acute toxicity estimates

Route	ATE value
Oral	55633.8 mg/kg

Irritation/Corrosion**Conclusion/Summary****Skin** : There are no data available on the mixture itself.**Eyes** : There are no data available on the mixture itself.

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SECTION 11: Toxicological information**Respiratory** : There are no data available on the mixture itself.**Sensitisation****Conclusion/Summary****Skin** : There are no data available on the mixture itself.**Respiratory** : There are no data available on the mixture itself.**Mutagenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Carcinogenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Reproductive toxicity****Conclusion/Summary** : There are no data available on the mixture itself.**Teratogenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
acetone	Category 3	Not applicable.	Narcotic effects
n-butyl acetate	Category 3	Not applicable.	Narcotic effects
butan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
propan-2-ol	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.**Potential acute health effects****Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.**Ingestion** : Can cause central nervous system (CNS) depression.**Skin contact** : Defatting to the skin. May cause skin dryness and irritation.**Eye contact** : Causes serious eye irritation.**Symptoms related to the physical, chemical and toxicological characteristics****Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness**Ingestion** : No specific data.**Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking

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SECTION 11: Toxicological information

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours
trizinc bis(orthophosphate)	Acute LC50 0.112 mg/l	Fish	96 hours
	Chronic NOEC 0.026 mg/l	Fish	30 days
propan-2-ol	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Conclusion/Summary : There are no data available on the mixture itself.

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SECTION 12: Ecological information**12.2 Persistence and degradability****Conclusion/Summary** : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetone	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.24	3	low
dimethyl ether	0.1	-	low
n-butyl acetate	1.78	-	low
propane	2.36	-	low
butane	2.89	-	low
isobutane	2.8	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low
butan-1-ol	0.88	-	low
propan-2-ol	0.05	-	low

12.4 Mobility in soil**Soil/water partition coefficient (K_{oc})** : Not available.**Mobility** : Not available.**12.5 Results of PBT and vPvB assessment****PBT** : Not applicable.**vPvB** : Not applicable.**12.6 Other adverse effects** : No known significant effects or critical hazards.**SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.**European waste catalogue (EWC)**

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

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SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	European waste catalogue (EWC)	
Container	15 01 04	metallic packaging

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	 UN1950	 UN1950	 UN1950	 UN1950
14.2 UN proper shipping name	 AEROSOLS	 AEROSOLS	 AEROSOLS	 Aerosols, flammable
14.3 Transport hazard class(es)	 2	 2	 2.1	 2.1
14.4 Packing group	 -	 -	 -	 -
14.5 Environmental hazards	No.	Yes.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.	Not applicable.

Additional information

ADR/RID : None identified.

Tunnel code :  (D)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

IMDG : None identified.

IATA : None identified.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations**Ozone depleting substances (1005/2009/EU)**

Not listed.

Aerosol dispensers :

3



Extremely flammable

Seveso Directive

This product is controlled under the Seveso Directive.

Product/ingredient name	List name	Name on list	Classification	Notes
butane	UK Occupational Exposure Limits EH40 - WEL	butane	Carc.	-

15.2 Chemical safety assessment

: No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

PBT = Persistent, Bioaccumulative and Toxic

vPvB = Very Persistent and Very Bioaccumulative

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

IMDG = International Maritime Dangerous Goods

IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229 Eye Irrit. 2, H319 STOT SE 3, H336 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method

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SECTION 16: Other informationFull text of abbreviated H statements

H220 H222, H229	Extremely flammable gas. Extremely flammable aerosol. Pressurised container: May burst if heated.
H225 H226	Highly flammable liquid and vapour. Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H302 Aerosol 1, H222, H229 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 3, H412 EUH066 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Gas 1, H220 Flam. Liq. 2, H225 Flam. Liq. 3, H226 Press. Gas (Comp.), H280 Skin Irrit. 2, H315 STOT SE 3, H335 STOT SE 3, H336	ACUTE TOXICITY (oral) - Category 4 AEROSOLS - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 Repeated exposure may cause skin dryness or cracking. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE GASES - Category 1 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 GASES UNDER PRESSURE - Compressed gas SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
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